# PROGRESS REPORT

# OF

# AREA ANALYSIS AND CLASSIFICATION

# IN

# NIOBRARA COUNTY, WYOMING

Office of State Land Planning Specialist

June, 1938.

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Harry W. Pearson,
State Land Planning Specialist.

Tom Rennard,
Junior Agricultural Economist.

Margaret Lissolo,
Senior Stenographer.

June, 1938.

The following preliminary report of land use in Niobrara County is based upon data and information available at the Agricultural Experiment Station, from schedules of participants in the Agricultural Conservation Program, from files of the Farm Security Administration, from the County offices and from general material available in the office of the Land Use Planning Specialist. No field survey specific for this activity was carried on. Therefore the study is not complete in all aspects, particularly those phases concerned with variation in size of operating units, in the gross income possibilities of the various types and sizes of farms and ranches, specific information in regard to crop yields, failures, and abandonment and with the general indebtedness situation. Statistical analysis are also very brief. The suggestions made are not intended to be all conclusive or arbitrary. Much additional information is needed before the best use of the land can be determined with certainty for all conditions. It is also recognized that the application of the best knowledge of the successful farmers and livestock producers may have a significant influence on future use of the natural resources of which land is very important.

Acknowledgement is due the Works Progress Administration for assistance received under W.P.A. and N.Y.A. projects.

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CONTENTS

CONTENTS

(Continued)

# INDEX

# Table

# AREA ANALYSIS AND CLASSIFICATION
# of
# NIOBRARA COUNTY, WYOMING

## INTRODUCTION

Niobrara County lies in the east-central portion of the State, it borders the southwest corner of South Dakota and the northwest corner of Nebraska. Previous to 1915 the land was primarily used for grazing range livestock, mostly cattle. As elsewhere in the Great Plains, this County received, during the past two decades, its portion of settlers. During this period, conditions were generally favorable toward the development of a homestead organized around the production of farm crops. In places, settlement became sufficiently dense as to influence the operation of long established ranches. The demand for wheat which was a reflection of the price, the development of power machinery and improvement in dry farm methods, and a period of abnormally high precipitation all tended to accelerate the establishment of farming enterprises. Subsequent drouth, low prices, erosion and a constantly increasing need for outside financial assistance gives emphasis to the thought that land is in many cases not suited to the purposes to which it is frequently put at the present time.

The story of the factors associated with the development of this area is essentially the story of the growth of farming in the whole Great Plains area. The maximum settlement in Niobrara County, however, taking place at a later date than in areas to the east. Immediately subsequent to the reconstruction period following the war, wheat, as a cash grain crop, was beginning to exert increasingly stronger competition for the use of land. Information in Figure 1 indicates the

relative price, based on a simple average of the monthly data of four important commodities in this area. As suggested, the data illustrates one reason for some of the practices which have developed in northeastern Wyoming that have contributed toward a misuse of the land. The average yield of wheat in Niobrara County from 1925 to 1930 inclusive was, as indicated in Figure 3, 8 bushels per acre. The average carrying capacity for range cattle is approximately 30 acres per animal unit[1/] per year with an average production of approximately 275 to 300 pounds of beef. The average price of beef and wheat, from 1915 to 1920, was $9.04 per hundred weight and $1.69 per bushel respectively. Assuming an approximate cost of production for normal conditions of $6 a hundred weight for beef and 60¢ a bushel for wheat, a section of land would, under the above prices, provide a net return of approximately $175 worth of beef, while 35 acres of land, on a basis of only 10 bushel yield, would provide a return of approximately $325. From 1920 to 1935 the difference was even wider since wheat averaged $1.22 per bushel while beef had fallen to $5.22 a hundred weight, a figure that was probably below the cost of production. The development of power machinery and better methods of production, a period of abnormally high rainfall associated with a price level which made wheat a crop that resulted in an immediate return much greater than was possible by grazing livestock on a similar amount of land, provided the stimulus for the contest which has followed. Land was relatively cheap and abundant and as a result the plow turned under the sod, the grass of which had supplied forage since 1860 for increasing numbers of

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1/ Average for A.A.A. range examination.

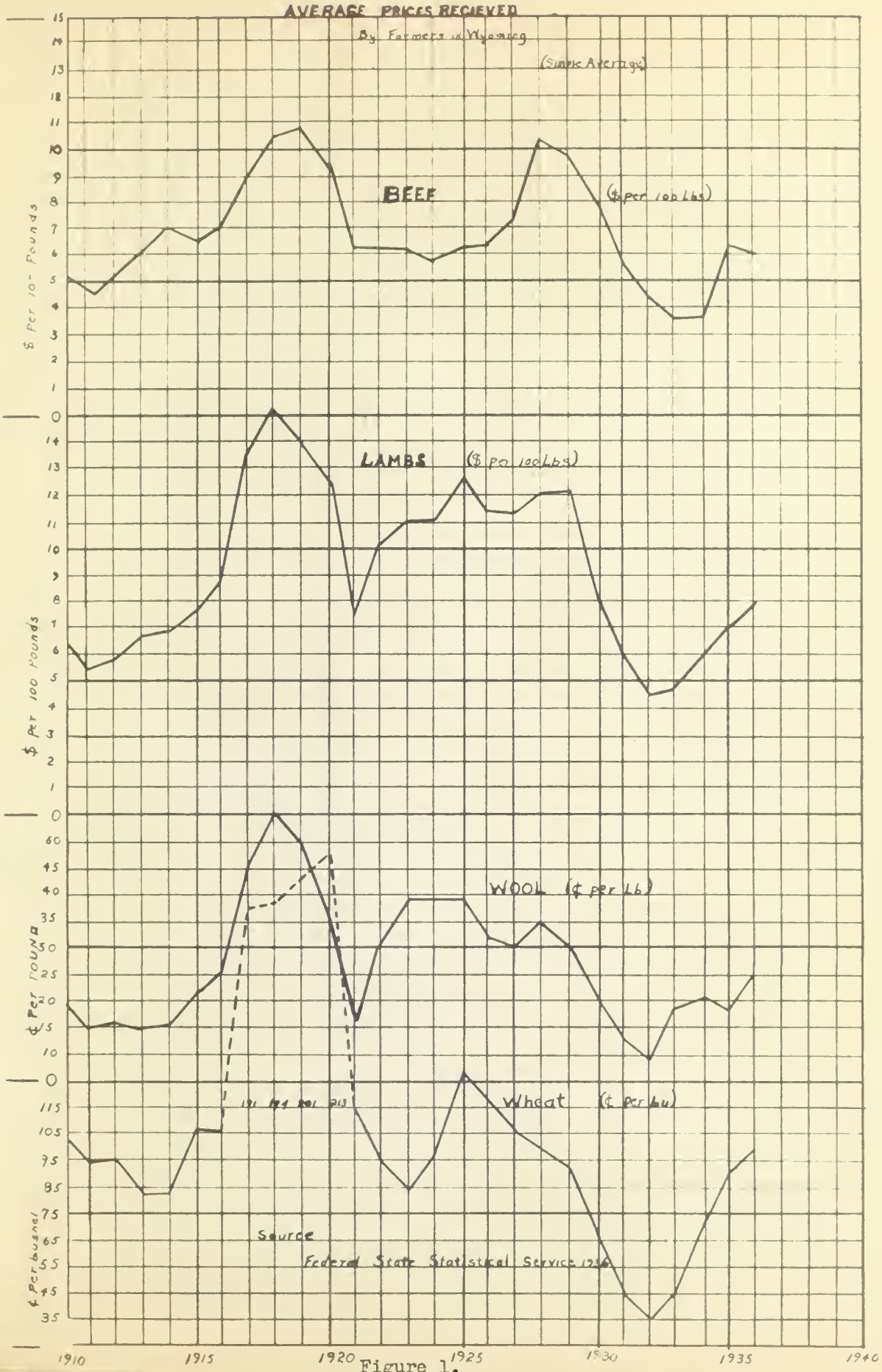

AVERAGE PRICES RECIEVED
By Farmers in Wyoming
(Simple Average)
BEEF
($ per 100 Lbs)
$ Per 100 Pounds
LAMBS
($ per 100 Lbs)
$ Per 100 Pounds
WOOL
(¢ per Lb)
¢ Per POUND
Wheat
(¢ per bu)
¢ Per bushel
Source
Federal State Statistical Service 1936
1910
1915
1920
1925
1930
1935
1940

Figure 1.

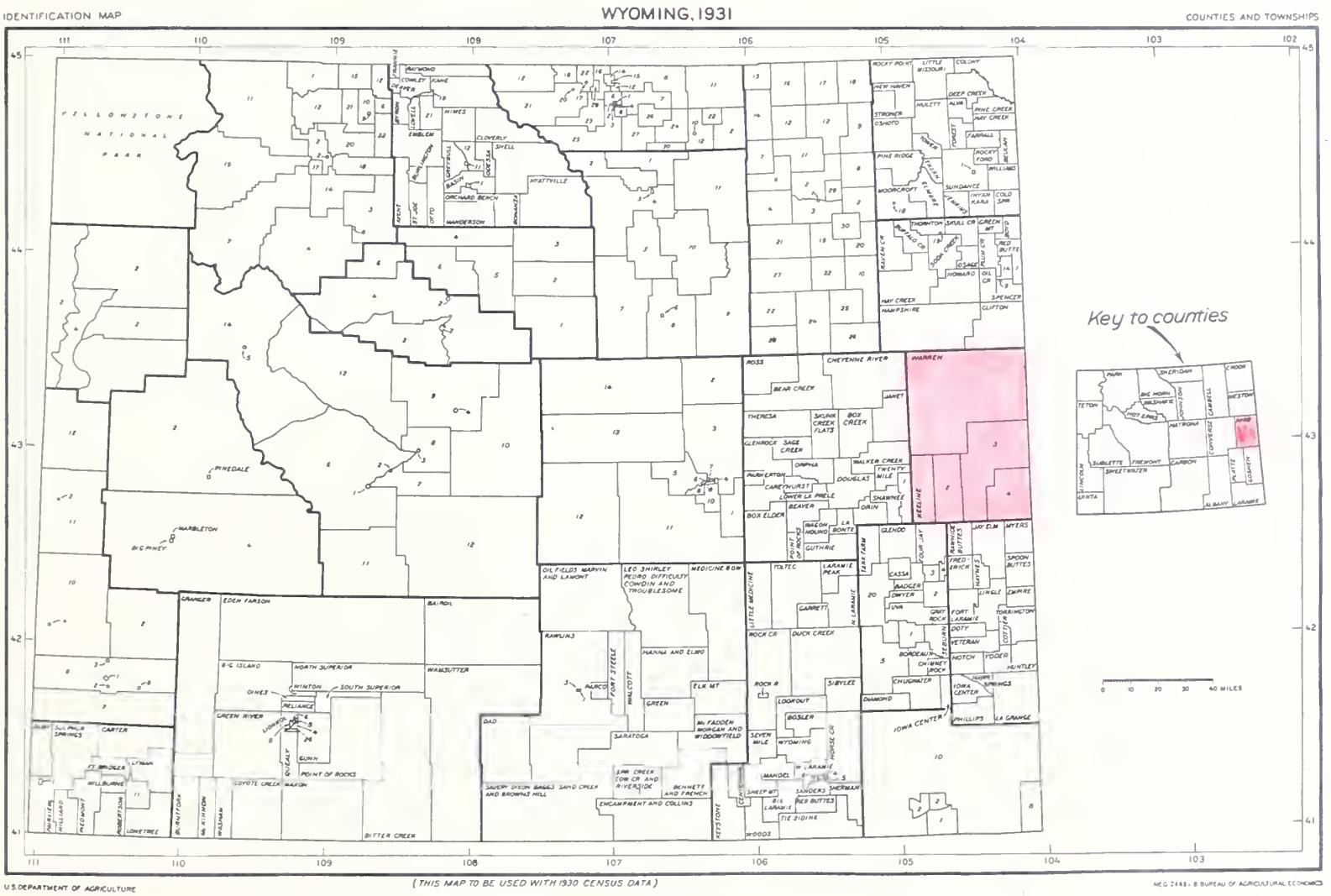
domestic livestock.

During the development or homestead period, the greater number of farmsteads were so organized that wheat provided the important source of income. Wheat or other cash grain was, and still frequently is the important agricultural enterprise. A partial reason for this was probably inherent in the homestead laws under which a large amount of ownership became possible. The laws developed primarily as a means of providing an adequate farm in the more fertile areas in the middle west or eastern portion of the United States were not well suited to the soil and climatic conditions in this region. The land permitted under the homestead acts, which subsequently received the benefit of irrigation water, was, as a rule, the only situation in which sufficient area could be obtained that would provide an adequate family living. The land available under these laws in areas in which it was only possible to organize a dry farm or a ranch, was not, in a great many cases, sufficient for the development of sound economic operating units. The area available obviously would not permit a ranch set-up and consequently distress among many of the farmers is the result of an attempt to continue farm operations on land that will not sustain adequate crop yields. In a great many cases the farmers themselves realize as much as any one that their present practices and farm operations are not suited to the climate and soil conditions under which they are living. Their units are, however, too small to permit them to change to livestock production. In many cases sincere effort is made to produce an income sufficient to meet taxes, interest charges, other costs, and a living for their families. In fact the hope of success and the need to meet fixed costs is an important reason for the continued

attempt to produce cash grain on land that is obviously submarginal for wheat production.

The purpose of the present study, in so far as possible, is to make an accurate determination of the various types of farming areas and the specific types of land use within these areas that will maintain soil production, reduce erosion, and yet provide for an adequate family living. It is apparent that if generally satisfactory agricultural conditions and a conservation and desirable use of the human and natural resources are to be effected, certain adjustments are necessary. To provide a foundation for determining what these adjustments should be, for determining a long time agricultural program that will have as its basis the best use of the land, giving consideration to the people who are attached to the land, is a function of the present study.

Before sound recommendations in regard to the best ways and means of effecting adjustment in the natural resources can be made with assurance, a more adequate knowledge of past use, of production capabilities, of optimum combinations of crop and livestock enterprises, of range carrying capacities and of alternate uses of land not suited to crop production and such factors, is necessary. The present study attempts to develop this information.




Index Map
Showing Location of Niobrara County
Figure 2

GENERAL DESCRIPTION - A -

1. Index map -- Figure 2.

2. Land area of County -- 1,666,500 acres or 2604 square miles.

3. Physical Characteristics

Niobrara County lies in what is generally termed the high plains part of the Great Plains. The western border of the Great Plains in Wyoming are limited by the Laramie and Big Horn mountains which cut across the State in a northwesterly, southeasterly direction. The whole plains area includes the ten eastern and northeastern counties. An area of about 30,500 square miles or approximately a third of the State. Niobrara County includes about 8.5 percent of the east-central section of this plains area. The County is bounded on the northeast by South Dakota and on the southeast by Nebraska.

Surface features vary from a gently rolling and undulating country in the southeastern portion to a fairly rough hilly country in the west and north. The slope is generally to the east and northeast. The main elevation is approximately 5000 feet but varies from about 3800 feet where the Cheyenne River crosses the State line to 5200 feet at Kirtley, a little south and west of the Nebraska-South Dakota line, to more than 5000 feet in the southwestern portion of the County. The area is drained principally by the Cheyenne River and its tributaries. The southeastern corner is drained by the headwaters of the Niobrara River. The climate is arid. Precipitation averages about 15 inches annually, although there is considerable variation. During the past thirty years at Kirtley, for example, precipitation has varied from a low of 7 inches to a high of 36 inches, the mean being 16 inches.

Native Vegetation

The southern and eastern portion of the County is generally characterized by a short grass plant association. The principal forage plant in this part of the county is grama grass although western wheat grass is fairly abundant. In the north and west portion of the county, sage brush frequently dominates the landscape. Intermingled among the sage brush, however, is considerable quantities of various kinds of grasses.

Type of farming and precipitation

Because of poor soil and erratic rainfall, crop farming is, except in the southeastern portion of the County, a highly speculative type of farming. Information shown in Figure 3 indicates that from 1924 to 1936 inclusive the average yield of wheat in Niobrara County has been less than 8 bushels per acre planted. During the first half of the period, from 1924 to 1936, the average yield on planted acres was about 10 bushels, while the average yield from 1930 to 1936 was approximately 5 bushels per acre. Due to climatic and topographical conditions, there is a wide range in production in various years. In 1934 the yield of wheat averaged less than 6 bushels per acre. Only 3 years out of the 12 under consideration were the yields 10 bushels or more.

As would be expected, there is a significant relationship between precipitation and yield per acre. High yields are, of course, associated with heavy rainfall. Information available, however, would seem to indicate that the yields of grain have been decreasing at a greater rate than the trend in rainfall. The apparent implication being that the yields per acre of grain, under heavy precipitation, will not be as high

in the future as they have been in the past. Table 1 shows the monthly precipitation at stations in or near Niobrara County for the period 1924 to 1934 inclusive. Evidence shown indicates that since the last year of high precipitation in 1927, the wheat yields have decreased in greater proportion than the annual rainfall. Even during 1935, a fairly good year, the yield of wheat was less in proportion to the rainfall than was generally true previous to 1927. The soils in this area are generally very low in organic matter, and continuous cultivation tends to increase the activity of the soil organism which permits the plants to draw heavily upon the available fertility. This fact explains, at least in part, the change that is taking place in the decreasing ability of the land to sustain crop yields. Another very important factor in connection with the present problem is associated with the regularity and distribution of the precipitation throughout a particular year or over a period of years. The data in the table indicate that out of a total of 1092 months, 60 percent or 656 months were below the mean, and 40 percent or 436 months were above. While this difference is perhaps in itself significant, it becomes noticeably more so when the quantity of moisture is taken into consideration. During the period 1924-1936, the total precipitation for the 1092 months at the seven stations amounted to 1250.5 inches. Of this quantity 381.9 inches or 31 percent occurred during the portion of the period below normal and 868.6 or 69 percent of the total volume of moisture came during the period in which the monthly precipitation, as measured by the monthly data, was above the mean only 31 percent of the time. Thus, on a monthly basis, 69 percent of the moisture fell during a period when the monthly mean was above the long time average only 40 percent of the time. It would seem,

AVERAGE MONTHLY PRECIPITATION 1924 - 1936
AT STATIONS IN OR NEAR NIOBRARA COUNTY

Table I.
Average Monthly Precipitation by Stations 1924-1936 (inches)

| Station | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Annual 1/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Douglas | .29 | .56 | .91 | 1.55 | 2.63 | 1.60 | 1.58 | 1.38 | .90 | 1.30 | .63 | .51 | 13.84 |
| Hampshire | .49 | .29 | .58 | .94 | 2.50 | 1.58 | 1.22 | 1.49 | .82 | 1.08 | .36 | .26 | 11.61 |
| Kirtley | .41 | .43 | .72 | 1.98 | 2.72 | 2.86 | 1.63 | 1.67 | 1.25 | 1.41 | .72 | .34 | 16.14 |
| Lusk | .40 | .51 | .97 | 1.67 | 2.83 | 1.95 | 1.83 | 1.50 | 1.04 | 1.37 | .66 | .45 | 15.18 |
| Newcastle | .48 | .41 | .75 | 1.32 | 2.51 | 2.62 | 2.09 | 1.82 | 1.09 | 1.25 | .57 | .34 | 15.32 |
| Ross | .27 | .45 | .59 | .94 | 2.26 | 2.14 | 1.25 | 1.07 | .84 | .83 | .45 | .18 | 11.33 |
| Spencer 2/ | .38 | .49 | .73 | 1.46 | 2.17 | 2.72 | 1.62 | 1.22 | .90 | 1.15 | .48 | .34 | 13.65 |
| Average | .39 | .45 | .75 | 1.41 | 2.52 | 2.22 | 1.60 | 1.46 | .98 | 1.20 | .55 | .35 | 13.89 |

Average Monthly Precipitation by years at 7 stations (inches)

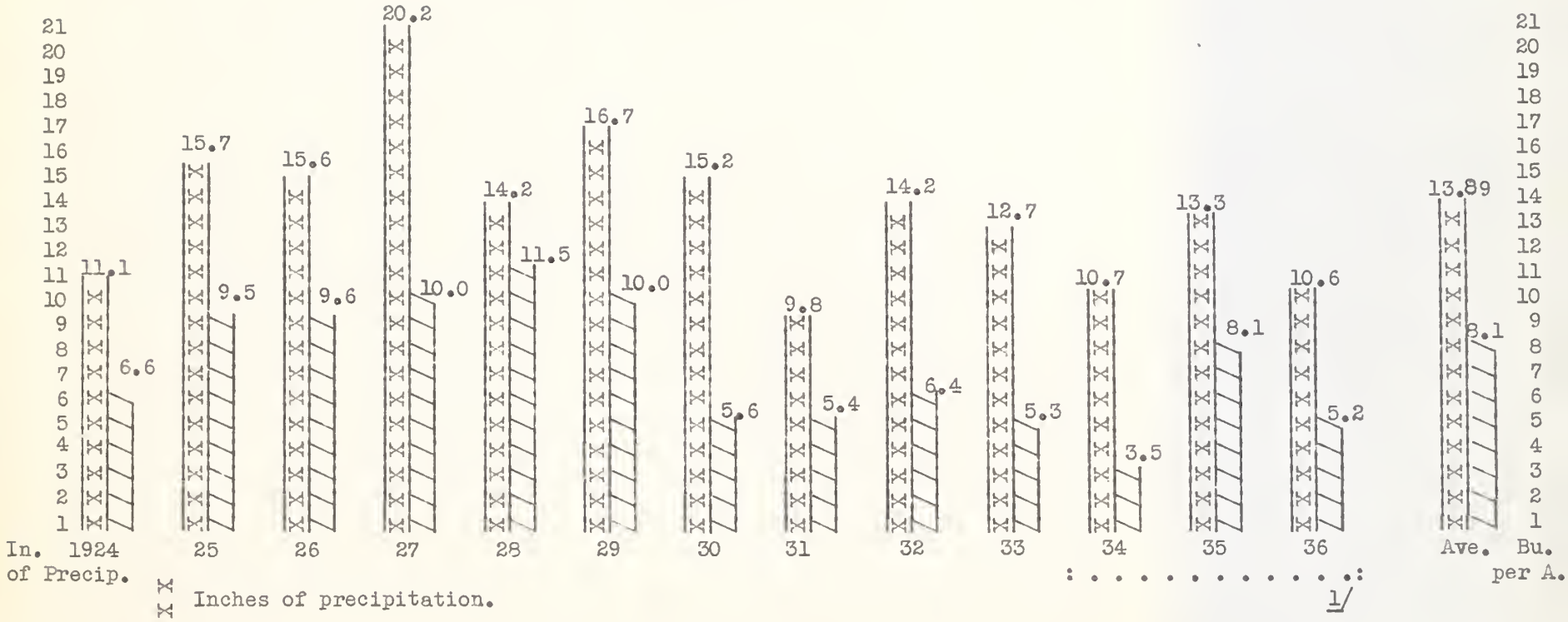
| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1936 | .50 | 1.02 | .65 | .84 | .38 | 2.35 | .86 | 1.02 | .67 | 1.01 | .81 | .31 | 10.62 |
| 1935 | .06 | .47 | .71 | 1.61 | 5.37 | 1.63 | .79 | .77 | .92 | .31 | .26 | .36 | 13.32 |
| 1934 | .29 | .45 | .74 | .93 | .24 | 3.55 | .86 | .75 | .97 | 1.00 | .36 | .46 | 10.66 |
| 1933 | .16 | .32 | .66 | 2.67 | 3.67 | .66 | 1.15 | 2.42 | .53 | .06 | .25 | .14 | 12.72 |
| 1932 | .57 | .26 | .57 | 2.71 | 2.45 | 1.99 | 1.50 | 1.65 | .42 | 1.14 | .50 | .35 | 14.17 |
| 1931 2/ | .07 | .29 | .94 | .59 | 2.16 | .86 | 1.21 | .97 | .37 | 1.40 | .50 | .36 | 9.75 |
| 1930 | .36 | .39 | .61 | .95 | 2.95 | 1.66 | 1.17 | 3.50 | 1.13 | 1.93 | .41 | .15 | 15.22 |
| 1929 | .29 | .59 | 1.58 | 1.68 | 3.34 | 1.95 | 1.88 | 1.17 | 2.50 | .73 | .81 | .15 | 16.71 |
| 1928 | .45 | .28 | .36 | .31 | 2.77 | 3.69 | 2.98 | .68 | 1.03 | .89 | .50 | .20 | 14.18 |
| 1927 | .30 | .43 | 1.03 | 3.00 | 3.61 | 2.72 | 2.91 | 2.21 | 1.54 | 1.64 | .53 | .26 | 20.22 |
| 1926 | 1.09 | .13 | .20 | .78 | 1.98 | 3.15 | 2.95 | 2.14 | .85 | 1.00 | 1.03 | .26 | 15.57 |
| 1925 | .66 | .39 | .73 | 1.40 | 2.76 | 3.54 | 1.77 | .76 | 1.00 | 1.98 | .27 | .53 | 15.74 |
| 1924 | .19 | .77 | .96 | .69 | 1.05 | .89 | .73 | .63 | .71 | 2.51 | .91 | 1.03 | 11.11 |
| Average | .39 | .45 | .75 | 1.41 | 2.52 | 2.22 | 1.60 | 1.46 | .98 | 1.20 | .55 | .35 | 13.89 |

1/ Weighted average.
2/ No data available for Spencer in 1931.

Source: U. S. Weather Bureau.

ANNUAL PRECIPITATION AND AVERAGE YIELD OF WHEAT
on
Planted acre basis
Niobrara County

Figure 3.




XX Inches of precipitation.

// Bushels per acre.

1/ Yield on planted acre basis for 1934 - 1935 - 1936 estimated.

Source: U. S. Weather Bureau and Wyoming Agricultural Data developed for use in County Agricultural Planning.

therefore, that the years of high precipitation have a greater tendency to increase the mean than the drouth years have to lower it, if the same number of years are considered. A further analysis of the data shows that the precipitation averages about 1.14 inches monthly. The average for months of high rainfall represent 195 percent while the average for the months of low precipitation represents only 50 percent of the mean. These data emphasize the fact that the average annual precipitation may give a very misleading picture if such data is used as a basis for determining the type of farming feasible in any particular area.

4. Soils and Crops

There is an extreme variation in soils in this County. In the southern and eastern part, sandy soils predominate and in the northern and western part heavy clay and gumbo soils predominate. A fairly definite demarcation between these two general types is in evidence, the southern third being sandy loam and the northern two-thirds the heavier clays. In the southern portion of the County a considerable acreage was at one time farmed to commercial cash crops, principally wheat. Under the general climatic conditions which prevailed at the time of settlement, the sandy soils frequently returned very satisfactory yields. These soils have an appearance and general aspect which led the many farmers that came from the cornbelt to conclude that they could make a very satisfactory living on the acreage available under homestead. The rainfall conditions at the time of settlement, which were above average, and the relative abundance of available fertility, produced large crops in the earlier period.

VARIATION OF ANNUAL PRECIPITATION FROM 28-YEAR AVERAGE AT 8 WEATHER OBSERVATION STATIONS, WYOMING, 1906-1933

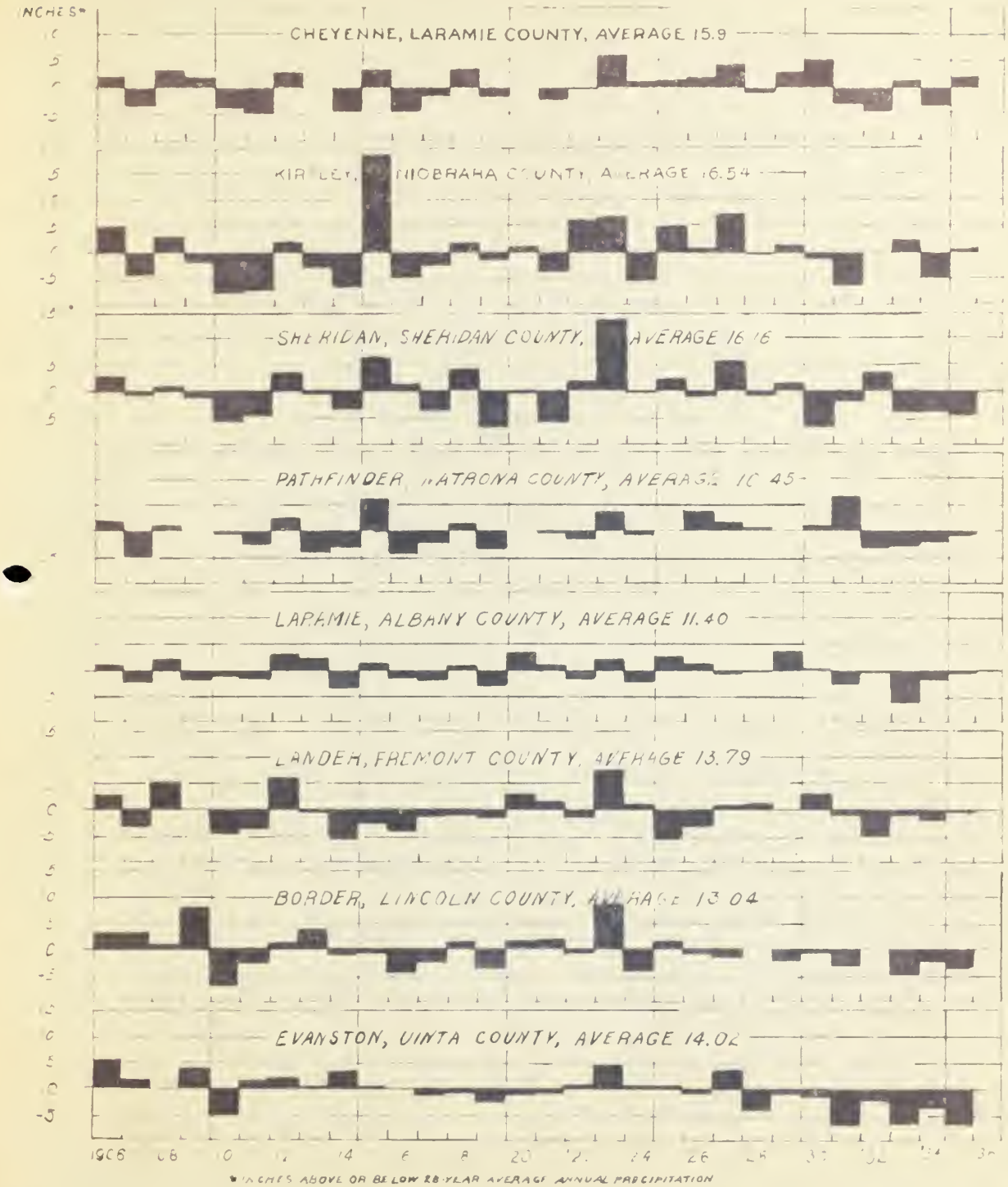



Figure 4.

Arranged by the State Land Planning Specialist.

However, the effects of drouth, erosion and fertility depletion have frequently proven the error in original judgment. The heavier soils to the north were always difficult to farm and while response to exceptionally favorable conditions was occasionally better than in the sandier areas, cultivation was and still is a hazardous practice. For this reason, a considerable portion of the land still supports a native vegetative cover. Intensive grazing and use, however, has, in places, caused certain changes in the virgin plant association. In the southern portion of the County the homestead units are not of sufficient size to permit the organization of an adequate range livestock enterprise. This situation has necessitated the attempt to continue crop farming. Winter wheat is gradually displacing spring wheat which has been the important cash crop. Potatoes and crested wheat grass seed are of importance as a source of income. Dairying, poultry and hog enterprises are economical as a rule only to the point of supplying local markets. However, these enterprises provide an important source of farm employment and are frequently not developed to a desirable maximum. The range livestock business concerns both cattle and sheep. Cattle have been by far the most important, although increases in numbers of sheep are requiring a greater acreage of range. While 75 to 85 percent of the necessary forage comes from the range in such a livestock enterprise, supplementary feed for a period of 2 to 4 months in the winter time is usually a part of a well organized livestock ranch.

5. Land Classification

No portion of this county has been included in a soil survey. Figure 3 shows general land classification of the U.S.D.I., U.S.D.A. This classification shows: 1600 acres irrigated land, 239,000 acres second-grade dry-farm land, 330,000 acres third-grade dry-farm land, 1,111,000 acres grazing land. No first grade dry farm land was mapped although the suggestion was made that frequent small bodies of such land did occur in widely scattered areas. On the above basis, however, 14 percent of the land is classed as second-grade dry-farm land, 20 percent as third-grade dry-farm land, and 66 percent grazing land.

NIOBRARA COUNTY

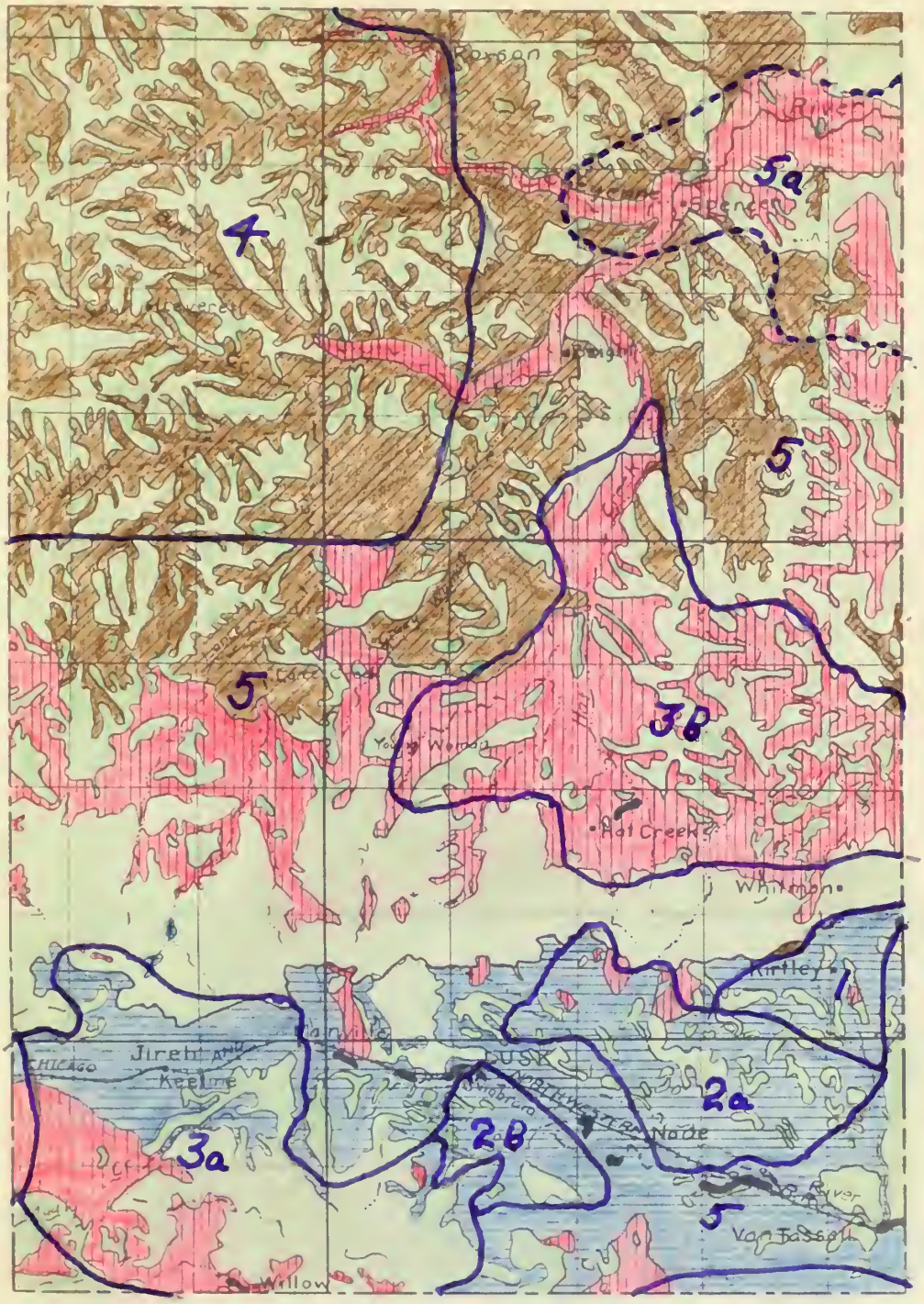
SCALE 1" = 8 MILES

Source
LAND CLASSIFICATION
U.S.D.I. U.S.D.A.

0 = Area Number
= Boundary of land use areas

R 67W R66W R65W R64W R63W R62W R61W R60W

T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
T 35 N
T 34 N
T 33 N
T 32 N
T 31 N




SECOND-GRADE DRY FARMING LAND

THIRD-GRADE DRY FARMING LAND

IRRIGATED LAND

TILLABLE GRAZING LAND

NON-TILLABLE GRAZING LA

Figure 5.

## 6. POPULATION CHARACTERISTICS AND DISTRIBUTION

(a) Population -- Niobrara County 1/

| M.C.D. | 1930 | 1920 | 1910 | Area in Acres | Population per sq. mile |
|---|---|---|---|---|---|
| 1. Keeline | 420 | enumer- | Organized | 133,325 | 2.0 |
| 2. | 520 | ated | from | 149,990 | 2.2 |
| 3. | 2016 | by | Converse | 349,978 | 3.7 |
| 4. | 518 | school | County in | 183,321 | 1.8 |
| 5. Warren | 1249 | districts. | 1913. | 849,946 | .9 |
| Total | 4723 | 6321 | | 1,666,560 | 1.8 |

(b) Population -- Number and Density by M.C.D. 1/

| | Keeline | No. 2 | No. 3 | No. 4 | Warren | County |
|---|---|---|---|---|---|---|
| Rural Population | 362 | 310 | 807 | 397 | 904 | 2780 |
| Urban Population | 58 | 210 | 1209 | 121 | 345 | 1943 |
| Rural Population density per sq. mile | 1.7 | 1.3 | 1.5 | 1.4 | .68 | 1.07 |

(c) Racial characteristics -- Essentially all white

(d) Age Composition 1/

| Years | Keeline | No. 2 | No. 3 | No. 4 | Warren | County |
|---|---|---|---|---|---|---|
| Under 5 | 51 | 49 | 209 | 59 | 145 | 513 |
| 5 - 14 | 101 | 132 | 450 | 106 | 249 | 1038 |
| 15 - 24 | 67 | 90 | 333 | 97 | 218 | 805 |
| 25 - 34 | 66 | 65 | 256 | 69 | 232 | 688 |
| 35 - 44 | 56 | 73 | 330 | 72 | 202 | 733 |
| 45 - 64 | 60 | 78 | 332 | 77 | 163 | 710 |
| 65 & over | 19 | 33 | 102 | 37 | 40 | 231 |
| All over 21 | 226 | 279 | 1125 | 290 | 732 | 2652 |
| Total Rural Farm Population | 362 | 310 | 807 | 397 | 904 | 2780 |

(e) Ratio of Children to Women, 15-45 Years 1/

| M.C.D. | No. rural female population 15 - 45 years 2/ | No. of children below 15 years | Ratio |
|---|---|---|---|
| Keeline | 155 | 152 | .98 |
| No. 2 | 204 | 181 | .89 |
| No. 3 | 794 | 659 | .83 |
| No. 4 | 184 | 165 | .90 |
| No. 5 (Warren) | 451 | 394 | .87 |
| County | 1793 | 1551 | .87 |

1/ 1930 United States Agricultural Census
2/ Estimated by applying ratio of County totals to M.C.D's.

NIOBRARA COUNTY

Scale 1" = 8 miles

POPULATION pattern as indicated by Rural Road Inventory Survey

= Boundary of land use areas

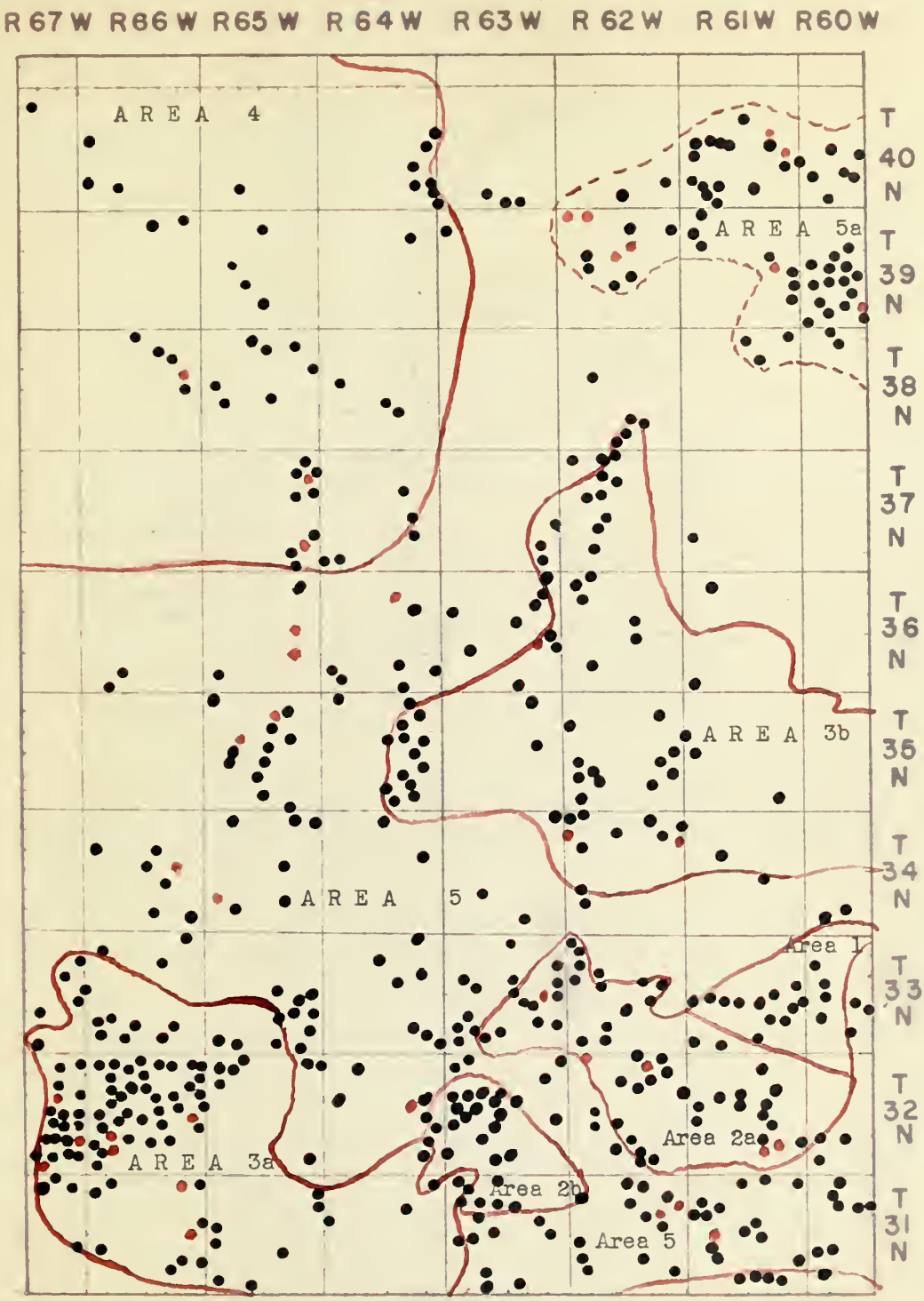



Figure 6.
Source of data: Wyoming State Highway Department

● Occupied house
● Unoccupied house

6. (f) Migration trends 1/

| Year | No. farms Niobrara County |
|---|---|
| 1920 | 739 |
| 1925 | 682 |
| 1930 | 727 |
| 1935 | 738 |

Ownership in 1935 2/

| Size in acres | No. Private Residents | No. Non-residents and Corporated owned | Total |
|---|---|---|---|
| 0 - 80 | 53 | 60 | 113 |
| 81 - 160 | 121 | 92 | 213 |
| 161 - 320 | 292 | 263 | 555 |
| 321 - 480 | 142 | 64 | 206 |
| 481 - 640 | 261 | 169 | 430 |
| 641 - 960 | 115 | 34 | 149 |
| 961 and above | 193 | 35 | 228 |
| Total | 1177 | 717 | 1894 |

Thirty-eight percent of the ownerships were non-resident. Most of the farm homestead entries occurred during the period 1915 to 1925.

1/ U. S. Agricultural Census, 1930.

2/ Ownership survey, 1935, Office of State Land Planning Specialist.

7. Material standard of living -- Niobrara County.

(a)

Average value of dwellings 1/

| Year | Keeline | No. 2 | No. 3 | No. 4 | Warren | County |
|---|---|---|---|---|---|---|
| 1930 | $835 | $849 | $779 | $976 | $510 | $719 |

Average value of land and buildings per farm 2/

| | | | | | | |
|---|---|---|---|---|---|---|
| 1935 | $12,307 | $17,651 | $8,272 | $12618 | $8777 | $10,317 |
| 1930 | 23,513 | 23,156 | 18,181 | 11705 | 9983 | 15,418 |

Farm Dwellings - 1935 2/

| | | | | | | |
|---|---|---|---|---|---|---|
| Occupied | 111 | 56 | 206 | 93 | 335 | 801 |
| Unoccupied | 17 | 12 | 50 | 20 | 39 | 138 |

(b) (c) (d) (e) Not available except by field survey.

(f) Valuation of automobiles and trucks 3/

| Year | Total | Net 4/ |
|---|---|---|
| 1936 | $211,218 | $193,995 5/ |
| 1935 | 211,419 | 196,037 |
| 1934 | 134,875 | 124,658 |
| 1933 | 139,839 | 127,742 |

8. Character of the agriculture
(a) Number of farms 2/

| Years | Total Number | Average acres per farm |
|---|---|---|
| 1920 | 739 | 858 |
| 1925 | 682 | 1430 |
| 1930 | 727 | 1680 |
| 1935 | 738 | 1927 |

1/ U. S. Agricultural Census, 1930.
2/ U. S. Agricultural Census for years indicated.
3/ Biennial reports of State Board of Equalization.
4/ After deducting Soldier's exemptions.
5/ To July, 1936.

8. (b)

## NUMBER OF FARMS AND LAND USE 1/

| Item | Keeline | No. 2 | No. 3 | No. 4 | Warren | County |
|---|---|---|---|---|---|---|
| Number of Farms | | | | | | |
| 1935 | 104 | 55 | 181 | 97 | 301 | 738 |
| 1930 | 96 | 77 | 179 | 99 | 276 | 727 |
| All land in farms | | | | | | |
| 1935 acres | 164,097 | 112,544 | 320,986 | 158,988 | 655,186 | 1,421,801 |
| 1930 | 181,285 | 151,647 | 326,779 | 146,222 | 415,808 | 1,221,741 |
| Ave. acres per farm | | | | | | |
| 1935 | 1,578 | 2,046 | 1,773 | 1,639 | 2,210 | 1,927 |
| 1930 | 1,888 | 1,969 | 1,826 | 1,477 | 1,507 | 1,681 |
| Cropland harvested | | | | | | |
| Farms reporting, 1935 | 82 | 50 | 161 | 77 | 125 | 495 |
| Acreage, 1935 | 6,018 | 4,534 | 12,317 | 8,542 | 7,363 | 38,774 |
| " 1930 | 14,667 | 11,709 | 23,174 | 20,750 | 21,942 | 92,242 |
| Crop Failure | | | | | | |
| Farms reporting, 1935 | 85 | 36 | 120 | 60 | 189 | 490 |
| Acreage, 1935 | 4,842 | 1,692 | 6,228 | 4,048 | 14,044 | 30,854 |
| " 1930 | 659 | 233 | 2,308 | 124 | 2,431 | 5,755 |
| Cropland Idle or Fallow | | | | | | |
| Farms reporting, 1935 | 73 | 31 | 46 | 60 | 57 | 267 |
| Acreage, 1935 | 4,639 | 2,057 | 2,759 | 3,994 | 3,832 | 17,281 |
| " 1930 | 3,614 | 1,905 | 2,738 | 436 | 823 | 9,516 |
| Pasture land - total | | | | | | |
| 1935 acres | 146,857 | 103,750 | 284,012 | 137,934 | 614,004 | 1,286,557 |
| 1930 | 160,549 | 135,987 | 287,690 | 121,462 | 388,862 | 1,094,550 |
| All other land in farms | | | | | | |
| Farms reporting, 1935 | 103 | 54 | 174 | 95 | 296 | 722 |
| Acreage, 1935 | 1,286 | 511 | 15,670 | 3,669 | 23,214 | 44,350 |
| " 1930 | 1,401 | 1,813 | 10,589 | 1,590 | 1,750 | 17,143 |
| Irrigated crop land | | | | | | |
| Harvested acreage, 1935 | --- | --- | 8 | 100 | 157 | 265 |
| " " 1930 | | | | | | 367 |

1/ U. S. Agricultural Census

8. (c) Type of farms 1/

| | Keeline | No. 2 | No. 3 | No. 4 | Warren | County |
|---|---|---|---|---|---|---|
| No. Farms | 96 | 77 | 179 | 99 | 276 | 727 |
| Self-Sufficing | 2 | -- | 4 | -- | 11 | 17 |
| Part-time | 2 | 2 | 4 | 3 | 20 | 31 |
| Unclassified | 1 | 2 | 6 | -- | 2 | 11 |
| Cash-grain | 22 | 23 | 11 | 7 | 13 | 76 |
| General | 29 | 19 | 44 | 21 | 49 | 162 |
| Crop Specialty | 4 | 6 | 18 | 4 | 33 | 65 |
| Dairy | 5 | 6 | 2 | 2 | 4 | 19 |
| Stock Ranches | 13 | 15 | 70 | 50 | 125 | 273 |
| Poultry | -- | -- | 3 | -- | 2 | 5 |
| Animal Specialty | 16 | 4 | 17 | 12 | 17 | 66 |
| Stock Ranches & Animal Specialty | 29 | 19 | 87 | 62 | 142 | 339 |

(d) Tenure by M.C.D. 2/

| | | | | | | |
|---|---|---|---|---|---|---|
| Full Owners | 22 | 10 | 47 | 28 | 173 | 280 |
| Part Owners | 50 | 28 | 97 | 42 | 104 | 321 |
| Managers | -- | -- | -- | -- | 1 | 1 |
| Share Renters | 1 | -- | 3 | -- | 3 | 7 |
| Tenants | 31 | 17 | 34 | 27 | 20 | 129 |

Tenure by Years, County basis 3/

| | 1930 | 1925 | 1920 | Percent change 1925-30 | Percent change 1920-30 |
|---|---|---|---|---|---|
| Full Owners | 341 | 373 | 511 | 8.6- | 33- |
| Part Owners | 259 | 211 | 187 | 22.7+ | 38+ |
| Managers | 3 | 6 | 4 | -- | -- |
| Tenants | 124 | 92 | 37 | 34.8+ | 235.+ |

- Denotes decrease

+ Denotes increase

1/ U. S. Agricultural Census, 1930.
2/ U. S. Agricultural Census, 1935.
3/ U. S. Agricultural Census for period indicated.

Land use as indicated by the Census data is shown in sections 8a to 8g. According to the 1935 Census, approximately 88 percent of the total land area in the County is land in farms. Only about 6 percent of the latter area is land in crops.[1/] The severe drouth of 1934 had an influence on this acreage since the 1930 Census data indicate approximately 9 percent of all land in farms was in crop land. In either case the total area is relatively small. Since 1920 there has been a constant increase in land ownership. This acreage increased three-fold between 1920 and 1925, doubled again during the next 5 years and increased by about 20 percent between 1930 and 1935.

According to the 1930 Census data, the acreage of corn and small grains harvested and hay crops were about the same, approximately 41,000 acres each. In 1935 the acreage of small grains and corn harvested was much smaller than the hay land harvested but both acreages were much less in 1935 than in 1930, reflecting the influence of the drouth. The acreage of hay land as indicated by enumeration is subject to wide variation. During years of heavy rainfall a larger area is harvested than during years of drouth. In extended dry periods, frequently no hay is cut but the meadows are all used for pasture.

The sub-marginal aspect of much of the crop land is indicated by the data for crop failure and idle or fallow land. In 1930, acreage in this category was 15,271 and in 1935 an increase to 48,135 acres had occurred. The significance of these figures becomes apparent when it is noted that failure and idle or fallow represented approximately 55 percent of the total crop land in 1935 and 14 percent in 1930.

---

1/ Includes crops harvested, crop failure and idle or fallow.

According to the Agricultural Census, the number of farms in the State increased from 6,095 in 1900 to 17,487 in 1935. By comparison with other States, the number is small but the proportion is significant. During the early part of this period the number of owners represented 66 percent of the total number, while in 1935 they represented 47 percent of the total. The change in ownership is comparable to the change in tenancy. In 1900 there were 464 tenants in Wyoming and in 1935 there were 4083, an increase from 8 to 23 percent in the total number of farms. Approximately 17 percent of the total number of farmers were tenants in Niobrara County in 1930 and 1935. Between 1925 and 1930 the number of tenants increased about 35% but between 1920 and 1935 has been almost 250 percent. However, there were relatively few tenants in 1920 in this county.

8. (e)

## CROP PRODUCTION 1/

| | 1925 | | | | 1930 | | | | 1935 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acres | Yield | Prod. 3/ | No. 2/ | Acres | Yield | Prod. 3/ | No. 2/ | Acres | Yield | Prod. 3/ |
| Corn | | | | | | | | | | | |
| Grain | 2743 | 7.9 | 21785 | 148 | 3111 | 11.6 | 35955 | 59 | 1645 | 5.0 | 8278 |
| Forage | 7287 | -- | -- | 332 | 6356 | -- | -- | 248 | 5501 | -- | -- 6/ |
| Wheat | | | | | | | | | | | |
| Spring | 6320 | 6.1 | 38395 | 183 | 8232 | 9.7 | 79700 | 89 | 3188 | 3.7 | 11917 |
| Winter | -- | -- | -- | 64 | 2660 | 11.0 | 29197 | 12 | 463 | 6.2 | 2863 |
| Oats | 4631 | 11.6 | 53672 | 293 | 9847 | 18.0 | 177588 | 44 | 1188 | 5.7 | 6817 |
| Barley | 228 | 11.1 | 2530 | 172 | 5652 | 14.9 | 84429 | 17 | 394 | 6.1 | 2437 |
| Rye | 2879 | 5.9 | 16982 | 86 | 3263 | 9.0 | 29237 | 22 | 1115 | 2.4 | 2655 |
| Flax | -- | -- | -- | 30 | 1532 | 4.9 | 7440 | -- | -- | -- | -- |
| Hay Crops Total | 30522 | .6 | 19103 T. | -- | 41699 | .7 T. | 30156 T. | -- | 21587 | .4 | 9526 T. |
| Alfalfa | 7746 | | | 321 | 16423 | .8 | 13078 T. | 74 | 4010 | .5 | 2062 T. |
| Sweet Clover | 1232 | | | 22 | 714 | .8 | 592 T. | 4 | 48 | .7 | 35 T. |
| Grain hay | 5353 | | | 215 | 6568 | .8 | 5137 T. 7/ | 148 | 5723 | .4 | 2268 T. |
| Other hay 4/ | 16191 | | | | 19171 | .7 | 12526 T. | 193 | 11806 | .4 | 5161 T. |
| Sorghum | | | | | | | | | | | |
| Grain | -- | -- | -- | -- | -- | -- | -- | 2 | 13 | 11.1 | 145 |
| Forage 5/ | 113 | -- | -- | -- | -- | -- | -- | 45 | 847 | .5 T | 443 T. |
| Potatoes | 947 | 42 | 39318 | 351 | 1499 | 55 | 83161 | 220 | 1572 | 17 | 26683 |

1/ U. S. Agricultural Census.
2/ Farms Reporting.
3/ In bushels except where specified.
4/ Includes wild hay
5/ Tons
6/ Not reported
7/ Includes 1177 tons estimated for oats cut and fed.

8 (f) LIVESTOCK NUMBERS AND PRODUCTION, COUNTY BASIS 4/

| Item | 1/ FR | 1925 Number | 1/ FR | 1930 Number | 1/ FR | 1935 Number |
|---|---|---|---|---|---|---|
| Cattle (Total) | | 34,403 | | 45,694 | 639 | 33,547 |
| Beef | 474 | 32,887 | | 42,282 | | 30,340 |
| Dairy | | 1,516 | | 3,412 3/ | 583 | 3,207 |
| Cows 2 yrs. & over | | | | | | |
| Beef | | 11,961 | 368 | 14,794 | | 16,561 |
| Dairy | | 1,244 | 367 | 2,667 | | 2/ |
| Steers 1 yr. & over | | 8,065 | 426 | 12,615 | 380 | 2,496 |
| Bulls 1 yr. & over | | 467 | 314 | 637 | | |
| Total Value (Cattle) | | $990,197 | | $2,566,360 | | 2/ |
| Sheep (Total) | 58 | 14,673 | 109 | 51,651 | 184 | 43,227 |
| Ewes 1 yr. & over | | 11,636 | | 47,526 | 134 | 31,820 |
| Lambs | | 2,403 | | 2,615 | | 2/ |
| Rams | | 634 | | 1,510 | | 2/ |
| Total Value (Sheep) | | $163,053 | | $404,583 | | 2/ |
| Swine, Number | 374 | 3,440 | 386 | 5,217 | 277 | 1,781 |
| Value | | $33,005 | | $71,377 | | 2/ |
| Chickens, Number | 563 | 35,274 | 592 | 31,483 | | 2/ |
| Value | | $24,339 | | $24,242 | | 2/ |
| Turkey | | | 235 | 11,521 | | 2/ |
| PRODUCTION | | | | | | |
| Milk Produced | | 971,850 gal. | | 1,446,791 gal. | | 935,158 |
| Value of Dairy products produced | | $91,028 | | $145,781 | | |
| Wool produced | | 110,266# | | 375,229# | | 420,463# |
| Sheep Shorn | | 12,664 | 94 | 45,270 | | 44,590 |
| Value of wool | | $43,004 | | $112,569 | | |

1/ Farms reporting
2/ Not reported
3/ Cows and heifers born in 1928 or before and kept for milk production.
4/ United States Agricultural Census.

8 (g) LIVESTOCK NUMBERS AND PRODUCTION 2/
By M.C.D.

| Item | FR 1/ | Keeline | FR 1/ | No. 2 | FR 1/ | No. 3 | FR 1/ | No. 4 | FR 1/ | Warren | FR 1/ | County |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Horses & Mules | 96 | 683 | 50 | 762 | 158 | 1,135 | 88 | 630 | 261 | 2,248 | 653 | 5,458 |
| Cattle all ages | 97 | 3,817 | 51 | 1,774 | 164 | 9,073 | 93 | 6,399 | 234 | 12,484 | 639 | 33,547 |
| Calves under 1 yr. | 90 | 1,435 | 50 | 682 | 142 | 3,395 | 82 | 2,096 | 198 | 3,698 | 562 | 11,306 |
| Heifers 1 yr. old and under 2 yrs. | 62 | 327 | 28 | 140 | 100 | 767 | 63 | 664 | 127 | 1,286 | 580 | 3,184 |
| Steers & Bulls 1 yr. & over | 58 | 198 | 27 | 130 | 105 | 424 | 59 | 635 | 131 | 1,109 | 380 | 2,496 |
| Cows 2 yrs. & over | 97 | 1,857 | 51 | 822 | 163 | 4,487 | 93 | 3,004 | 226 | 6,391 | 630 | 16,561 |
| DairyCows | 94 | 726 | 47 | 349 | 160 | 904 | 87 | 486 | 195 | 742 | 583 | 3,207 |
| Sheep & Lambs all ages | 24 | 388 | 18 | 2,841 | 45 | 11,293 | 37 | 12,952 | 60 | 15,753 | 184 | 43,227 |
| Ewes | 13 | 267 | 13 | 2,584 | 36 | 8,496 | 31 | 8,705 | 41 | 11,768 | 134 | 31,820 |
| Chickens | 92 | 4,671 | 49 | 2,223 | 157 | 7,414 | 81 | 3,474 | 204 | 6,842 | 583 | 24,624 |
| Turkeys | 28 | 280 | 17 | 236 | 65 | 649 | 43 | 339 | 44 | 357 | 197 | 1,861 |
| Swine | 62 | 418 | 29 | 121 | 82 | 758 | 49 | 298 | 55 | 186 | 277 | 1,781 |

1/ Farms Reporting

2/ United States Agricultural Census, 1935

8. (h) (i) Irrigated land

U. S. Agricultural Census reports but 367 acres of irrigated land in Niobrara County in 1930. This area is almost exclusively used for the production of hay or other supplemental forage for the range cattle ranches. This land lies along the streams from which the water is diverted directly to the meadows.

9. Forests

There are no forests in Niobrara County. In fact in the more level portions of the County there are few trees of any kind except the farm home shelter belts. A few cedar and pines in the hilly country provide some fence posts and building props. Most of such material, however, has to be shipped into the area. Cottonwood trees along the Cheyenne River in the northern part of the county have been used as fence posts and fire wood.

10. Mineral Deposits

Mineral deposits in this area consist chiefly of oil. Lance Creek and Mule Creek are the most important fields. The Lance Creek area is at the present time receiving considerable attention, further successful development having taken place. The extent and the rapidity with which this mineral will be developed is of course problematical. The production of oil, however, provides very little opportunity for part-time work for the farmers. The drilling and the establishment of the necessary equipment to handle the product necessitates, for the most part, the employment of skilled and experienced labor. The oil business, therefore, cannot be considered as providing an opportunity for the development of part-time farming.

11. Manufacturing activity -- none.

12. Commercial Recreation

There are no parks, national monuments or other recreational centers in this county. The Black Hills area, which borders the northeast corner of the county, does provide considerable recreational possibilities. There is, however, very little opportunity for part-time employment of farmers in connection with recreation in this area. The Black Hills lie largely in South Dakota. The severity of the farm problems and the greater population density in this State essentially preclude employment opportunity for farmers located in Niobrara County in Wyoming.

13. Commercial Fishing -- none. Very little recreational fishing.

14. Industries providing or likely to provide employment for farmers.

There is very little opportunity for part-time industrial employment in this area. The production of petroleum and the production of coal for local use is essentially the only mineral enterprises in the county. Work in connection with the oil industry is not seasonal. Employment is largely on a full-time basis and therefore provides little opportunity for part-time work, which the farmers need especially in the winter time. Employment in the coal business is limited to a relatively small number of people, mostly those who control the locations.

15. Facilities for assembling farm products.

The facilities for assembling farm products in Niobrara County are as follows: two grain elevators, 1 creamery, 1 auction sales ring and local affiliation with the North Platte Turkey Growers Association. Under the sponsorship of the Agricultural Extension Service, the organization of a local cooperative wool marketing association is under way. The principal agricultural enterprise in this area is the

range livestock industry. The central markets at Denver and on the "River", of which Omaha is the most important, provide the immediate outlet for this business. Dewey,South Dakota which is about 5 miles from the northeastern corner of Niobrara County is a convenient loading point for cattle and sheep being shipped to the central markets. Feeder cattle are the important range livestock product. Occasionally sales are made direct to the feed lots in Nebraska. Except for high freight rates, there is no serious handicap to the marketing of the range cattle and sheep. In view of the limited amount of production of farm crops, there is, after the establishment of cooperatives mentioned above, little need for the development of more marketing facilities. This fact would seem to be further substantiated by the desirability of diverting much of the present sub-marginal crop land to the production of forage for livestock.

16. Highway and Rail routes

Federal Aid Highways with oiled surface traverse Niobrara County both from the east-west and north-south. These highways are so located as to be readily accessible to the better farming areas. The Chicago and Northwestern Railroad crosses the southern portion of the county in an east-west direction. The highway mentioned above parallels this railroad. Both make direct connection with Omaha. Connections by oiled highway with the Colorado and Southern railroad are available at Orin, 42 miles west of Lusk, the County seat of Niobrara County. Similar connections with the Chicago, Burlington and Quincy railroad are available at Edgemont, South Dakota, 17 miles from the Mule Creek Junction in the northeastern portion of the County and at Crawford, Nebraska, 55 miles east of Lusk. Junctions of the Chicago and Northwestern and Chicago

Burlington and Quincy occur at Chadron, Nebraska, 21 miles east of Crawford, and with the Colorado and Southern at Orin, Wyoming. Transportation facilities are adequate.

17a(1) ASSESSED VALUATION PER CAPITA BY SCHOOL DISTRICTS

| School Dist. No. | 1929 - 30 Valuation 1/ | Rural Population 2/ | Per Capita | 1934 - 35 Valuation 1/ | Population 2/ | Per Capita |
|---|---|---|---|---|---|---|
| 1 | $2,787,100 | 2031 | $1372 | $1,462,117 | 1976 | $ 740 |
| 2 | 769,031 | 378 | 2034 | 400,592 | 413 | 970 |
| 3 | 539,465 | 189 | 2854 | 225,553 | 184 | 1226 |
| 4 | 542,093 | 142 | 3818 | 248,793 | 138 | 1803 |
| 5 | 770,309 | 189 | 4076 | 533,362 | 184 | 2899 |
| 6 | 735,808 | 189 | 3893 | 536,020 | 184 | 2913 |
| 7 | 210,421 | 142 | 1482 | 119,136 | 92 | 1295 |
| 8 | 293,072 | 189 | 1551 | 209,006 | 184 | 1136 |
| 9 | 378,757 | 142 | 2667 | 168,814 | 138 | 1223 |
| 10 | 817,451 | 377 | 2168 | 507,857 | 367 | 1384 |
| 11 | 215,758 | 94 | 2295 | 132,283 | 92 | 1438 |
| 12 | 473,680 | 283 | 1674 | 349,943 | 276 | 1268 |
| 13 | 1,400,676 | 378 | 3705 | 754,300 | 367 | 2055 |
| Total | 9,933,621 | 4723 3/ | 2103 | 5,647,776 | 4595 3/ | 1229 |

1/ County Superintendent's reports filed in office of State Superintendent of Schools, Cheyenne, Wyoming
2/ Census of total rural population apportioned to school districts by school population, 6-21
3/ Total rural population as given by the Census

17a (2a) TRENDS IN LAND ASSESSMENTS 1/

| Years | IRRIGATED PASTURE LANDS | | DRY FARM LANDS | | GRAZING LANDS | | TOTAL LANDS | | | TOTAL IMPROVEMENT ON LANDS |
|---|---|---|---|---|---|---|---|---|---|---|
| | Acres | Ave. per acre | Acres | Ave. per acre | Acres | Ave. per acre | Acres | Ave. per Acre | Valuation | Valuation |
| 1936 | 6,333 | $15.00 | 42,323 | $3.82 | 1,057,119 | $1.65 | 1,108,180 | $1.81 | $2,007,732 | $502,718 |
| 1935 | 4,725 | 15.00 | 44,064 | 3.68 | 1,009,626 | 1.63 | 1,061,582 | 1.77 | 1,881,081 | 467,313 |
| 1934 | 4,943 | 15.00 | 43,109 | 4.78 | 944,259 | 1.97 | 1,002,214 | 2.15 | 2,155,985 | 480,531 |
| 1933 | 4,700 | 15.00 | 43,950 | 5.72 | 936,632 | 1.97 | 996,280 | 2.19 | 2,184,925 | 493,231 |
| 1932 | 5,648 | 18.00 | 61,180 | 6.39 | 1,118,520 | 2.09 | 1,200,549 | 2.38 | 2,851,716 | 571,583 |
| 1931 | 6,151 | 20.00 | 69,516 | 7.25 | 1,102,941 | 2.83 | 1,186,315 | 3.17 | 3,755,251 | 633,755 |
| 1930 | 6,838 | 20.00 | 65,177 | 8.00 | 1,102,464 | 3.146 | 1,175,289 | 3.512 | 4,127,912 | 657,648 |
| 1929 | 6,851 | 20.00 | 58,499 | 8.00 | 1,077,877 | 3.18 | 1,144,218 | 3.53 | 4,034,710 | 642,157 |
| 1928 | 6,682 | 19.82 | 55,013 | 7.99 | 1,076,282 | 3.17 | 1,139,327 | 3.502 | 3,990,052 | 563,106 |
| 1927 | 6,697 | 19.21 | 52,250 | 8.00 | 1,051,948 | 3.21 | 1,110,945 | 3.536 | 3,928,689 | 540,562 |
| 1926 | 6,397 | 19.85 | 48,173 | 8.00 | 983,818 | 3.36 | 1,038,873 | 3.68 | 3,820,921 | 511,272 |
| 1925 | 5,953 | 21.164 | 44,906 | 8.052 | 926,932 | 3.41 | 978,891 | 3.726 | 3,648,174 | 522,197 |

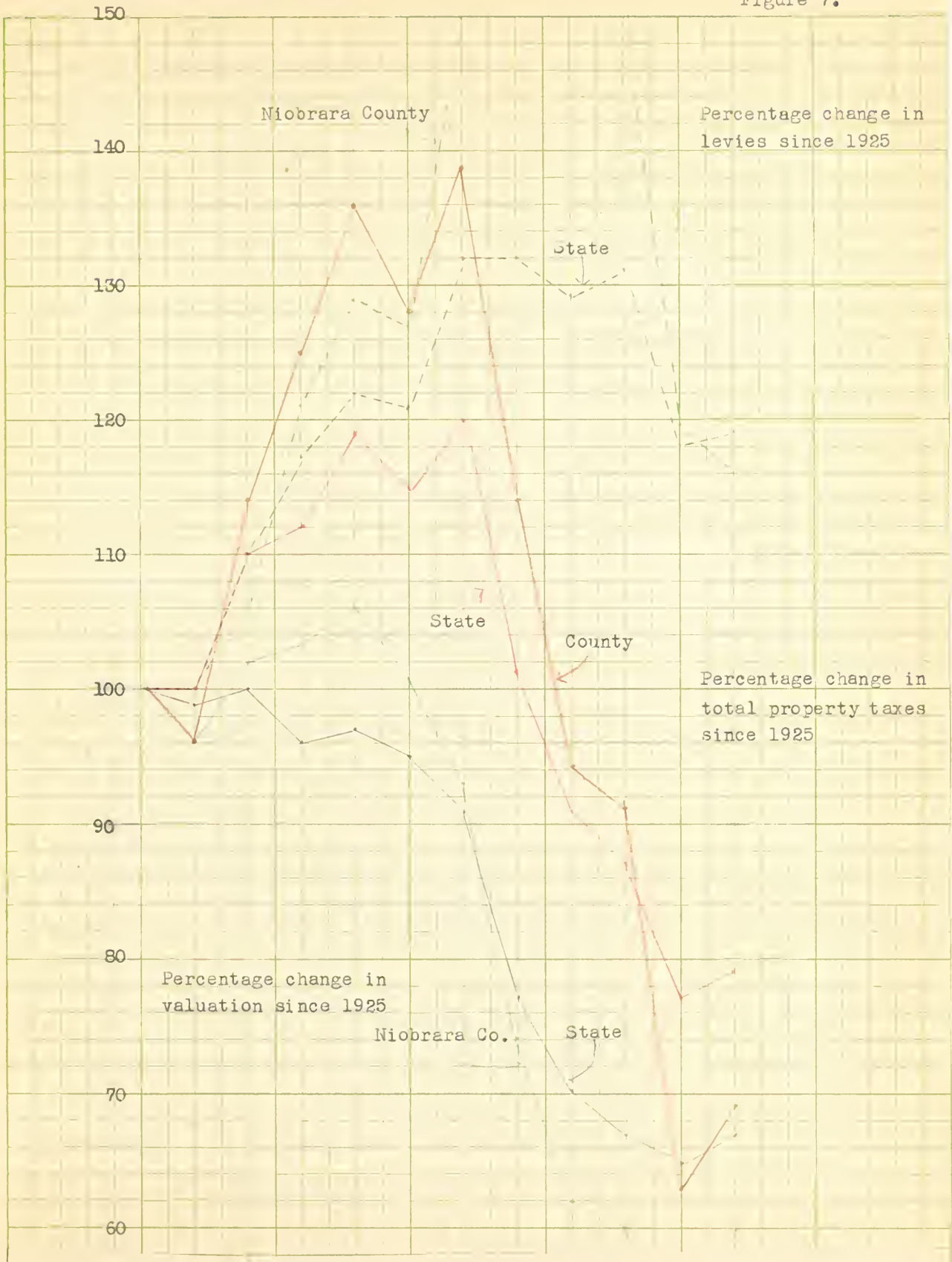
1/ Data taken from State Board of Equalization Reports.

17a(2b) TREND IN ASSESSED VALUATION 1/
By Type of Property

| Years | Real | Personal | Utility | Soldiers Exemptions | Net Total Taxable Property |
|---|---|---|---|---|---|
| 1936 | $3,065,244 | $1,205,649 | $1,644,911 | $272,952 | $5,642,852 |
| 1935 | 2,885,813 | 1,058,699 | 1,237,641 | 220,073 | 4,962,080 |
| 1934 | 3,132,731 | 1,385,262 | 1,418,779 | 288,996 | 5,647,776 |
| 1933 | 3,198,591 | 1,513,365 | 1,440,976 | 284,189 | 5,868,743 |
| 1932 | 4,102,092 | 1,641,926 | 1,598,718 | 315,152 | 7,027,584 |
| 1931 | 5,337,787 | 2,010,676 | 1,709,184 | 316,215 | 8,741,432 |
| 1930 | 5,706,070 | 2,300,818 | 1,896,839 | 327,150 | 9,576,577 |
| 1929 | 5,762,256 | 2,572,121 | 2,009,760 | 367,997 | 9,976,140 |
| 1928 | 5,514,884 | 2,351,387 | 2,189,927 | 372,768 | 9,683,430 |
| 1927 | 5,400,342 | 2,083,318 | 2,536,070 | 358,773 | 9,660,957 |
| 1926 | 5,332,669 | 1,728,320 | 2,366,692 | 324,465 | 9,103,216 |
| 1925 | 5,221,745 | 1,756,753 | 2,819,683 | 357,618 | 9,440,563 |

1/ Data taken from State Board of Equalization Reports.

Figure 7.


Percentage
150
140
130
120
110
100
90
80
70
60
Niobrara County
Percentage change in levies since 1925
State
State
County
Percentage change in total property taxes since 1925
Percentage change in valuation since 1925
Niobrara Co.
State

Assessed valuation per capita in Niobrara County declined from $2103 in 1930 to $1229 in 1935, a decrease of almost 50 percent. One of the principal causes is associated with the type of farming. In 1925, dry farm lands were assessed at about $8.00 per acre, a value maintained until about 1930. During this period crop yields were sufficient to pay the taxes on this valuation. Since 1930, however, yields would not support this valuation and a reduction was made to $3.68 per acre in 1936. While dry farm land values in 1925 were assessed at about 2½ times what they were in 1935; grazing land value had also changed, being reduced about one-half during the period. The general price level has, of course, had an influence but more important in the dry land area has been the influence of the drouth and the type of farming. Farms located on low quality soil do not have a sufficient production capacity to sustain necessary operating expenses.

Figure 7 portrays graphically the change in assessment and valuation when 1925 is made the base that has occurred in Niobrara County and the State of Wyoming from this period until 1936. Levies increased rapidly between 1925 and 1930, leveled off until 1934 and then decreased rapidly. The present swing is upward, valuations remained fairly constant until 1930 and then decreased rapidly until 1935. Total property taxes increased rapidly until 1931 and decreased rapidly until 1935. The pattern in Niobrara County followed very closely that of the State as a whole, an exception being that the spread was a little greater. An important future question is associated with recovery. Unless there is favorable precipitation, the recovery, as far as agriculture is concerned, is likely to be slower due to the maladjustment in the land use.

(b)

TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
NIOBRARA COUNTY

| SCHOOL | | CO. BOND INT. & REDEMPTION | | POOR, PAUPER OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount |
| 16,929 | .912 | $5146 | 1.0 | $5642 | .2 | $1129 | 12.112 | $68,346 | 7.912 | $44650 | 20.02 | $112,996 |
| 14.886 | 1.079 | 5355 | 1.0 | 4962 | .323 | 1600 | 11.852 | 58,808 | 8.793 | 43,633 | 20.65 | 102,441 |
| 16,943 | .986 | 5569 | .75 | 4236 | .265 | 1496 | 15.333 | 86,597 | 10.90 | 61,569 | 26.23 | 148,166 |
| 17,606 | .985 | 5783 | .926 | 5434 | .298 | 1749 | 15.653 | 91,861 | 10.54 | 61,844 | 26.19 | 153,705 |
| 21,083 | .86 | 6044 | .7 | 4920 | .25 | 1757 | 15.558 | 109,339 | 10.90 | 76,618 | 26.46 | 185,957 |
| 26,224 | .71 | 6207 | 1.0 | 8741 | .2 | 1748 | 16.174 | 141,382 | 9.879 | 86,362 | 26.05 | 227,744 |
| 28,730 | .66 | 6320 | .5 | 4788 | .38 | 3639 | 13.534 | 129,607 | 8.393 | 80,377 | 21.93 | 209,984 |
| 29,928 | .66 | 6584 | .5 | 4988 | .33 | 3292 | 13.788 | 137,553 | 8.516 | 84,958 | 22.30 | 222,511 |
| 29,050 | 1.0 | 9684 | -- | -- | .31 | 3002 | 13.579 | 131,490 | 7.442 | 72,065 | 21.02 | 203,555 |
| 28,983 | 1.0 | 9660 | -- | -- | .31 | 2995 | 13.579 | 131,185 | 5.745 | 55,503 | 19.32 | 186,688 |
| 27,309 | -- | -- | -- | -- | .31 | 2821 | 11.863 | 107,991 | 5.473 | 49,828 | 17.34 | 157,819 |
| 28,321 | .5 | 4720 | -- | -- | .3 | 2832 | 12.697 | 119,865 | 4.616 | 43,575 | 17.31 | 163,440 |

Source: Reports of State Board of Equalization.

17a (4b)

TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
MONTEREY COUNTY

| GENERAL COUNTY | | GEN. SCHOOL | | CO. BOND INT. | | POOR, TAUPER & OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEVY | | LEVY | | & REDEMPTION | | | | | | | | | | | |
| Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount |
| 5.0 | $28,214 | 3.0 | $16,929 | .912 | $5146 | 1.0 | $5642 | .3 | $1129 | 12.112 | $68,946 | 7.918 | $44850 | 20.03 | $113,996 |
| 4.45 | 22,081 | 3.0 | 14,885 | 1.079 | 5355 | 1.0 | 4962 | .325 | 1600 | 11.859 | 58,808 | 8.720 | 42,066 | 20.55 | 102,447 |
| 6.2 | 35,016 | 3.0 | 16,943 | .986 | 5569 | .75 | 4236 | .265 | 1498 | 15.836 | 86,397 | 10.90 | 61,589 | 26.25 | 148,186 |
| 6.2 | 36,386 | 3.0 | 17,606 | .985 | 5783 | .926 | 5434 | .294 | 1725 | 15.635 | 91,981 | 10.54 | 61,944 | 26.18 | 153,925 |
| 6.2 | 45,571 | 3.0 | 21,085 | .85 | 6044 | .7 | 4920 | .25 | 1757 | 15.558 | 109,358 | 10.90 | 76,615 | 26.46 | 185,973 |
| 6.2 | 54,197 | 3.0 | 26,284 | .71 | 6207 | 1.0 | 8741 | .2 | 1748 | 16.174 | 141,382 | 9.879 | 86,382 | 26.05 | 227,764 |
| 5.5 | 50,756 | 3.0 | 28,780 | .56 | 6320 | .5 | 4786 | .32 | 3639 | 12.564 | 129,607 | 8.906 | 90,277 | 21.47 | 219,884 |
| 5.5 | 54,869 | 3.0 | 29,928 | .66 | 6564 | .5 | 4988 | .45 | 3292 | 15.788 | 137,552 | 8.516 | 84,958 | 24.30 | 222,511 |
| 5.357 | 51,865 | 3.0 | 29,080 | 1.0 | 9684 | -- | -- | .31 | 3002 | 15.579 | 131,490 | 7.442 | 72,068 | 21.02 | 203,558 |
| 5.0 | 46,304 | 3.0 | 28,068 | 1.0 | 9360 | -- | -- | .31 | 2995 | 15.279 | 131,155 | 5.742 | 55,308 | 19.52 | 186,668 |
| 3.0 | 45,318 | 3.0 | 27,309 | -- | -- | -- | -- | .31 | 2921 | 11.865 | 107,921 | 5.425 | 49,328 | 17.34 | 157,319 |
| 5.2 | 50,025 | 3.0 | 28,321 | .5 | 4720 | -- | -- | .3 | 2825 | 12.697 | 119,865 | 4.615 | 43,575 | 17.31 | 163,440 |

Source: Reports of State Board of Equalization.

(4c) TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
STATE OF WYOMING

| CHOOL Y | | CO. BOND INT. & REDEMPTION | | POOR, PAUPER OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | |
| $809 | .403 | $125 | .979 | $302 | .763 | $236 | 11.198 | $3455 | 9.199 | $2838 | 20.397 | $6293 | |
| 791 | .407 | 123 | .932 | 279 | .713 | 214 | 11.117 | 3335 | 9.231 | 2769 | 20.348 | 6105 | |
| 805 | .416 | 128 | .778 | 239 | .805 | 248 | 13.362 | 4104 | 9.169 | 2816 | 22.531 | 6921 | |
| 835 | .386 | 124 | .739 | 237 | .776 | 249 | 13.288 | 4269 | 8.867 | 2849 | 22.155 | 7118 | |
| 887 | .335 | 119 | .705 | 250 | .675 | 239 | 13.282 | 4709 | 9.37 | 3322 | 22.652 | 8031 | |
| 974 | .302 | 127 | .717 | 300 | .674 | 282 | 13.771 | 5766 | 9.03 | 3781 | 22.78 | 9537 | |
| 904 | .335 | 146 | .367 | 161 | .738 | 323 | 11.918 | 5206 | 8.878 | 3878 | 20.796 | 9085 | |
| 967 | .346 | 155 | .368 | 165 | .684 | 306 | 12.13 | 5433 | 8.928 | 3999 | 21.058 | 9432 | |
| 964 | .505 | 223 | .319 | 141 | .528 | 234 | 12.275 | 5424 | 7.802 | 3447 | 20.077 | 8871 | |
| 949 | .346 | 160 | .326 | 150 | .605 | 279 | 12.159 | 5614 | 6.771 | 3126 | 18.931 | 8740 | |
| 921 | .315 | 144 | .208 | 95 | .544 | 249 | 11.17 | 5115 | 6.077 | 2782 | 17.25 | 7897 | |
| 900 | .189 | 87 | .249 | 115 | .716 | 330 | 11.22 | 5169 | 5.977 | 2753 | 17.20 | 7922 | |

oard of Equalization.

| Year | STATE TAX LEVY Mills | STATE TAX LEVY Amount | GENERAL LEV Mills | GENERAL LEV A |
|---|---|---|---|---|
| 1936 | 2.0 | $11,286 | 5.0 | $2 |
| 1935 | 2.0 | 9,924 | 4.45 | 2 |
| 1934 | 4.132 | 23,337 | 6.2 | 3 |
| 1933 | 4.243 | 24,903 | 6.2 | 3 |
| 1932 | 4.548 | 31,964 | 6.2 | 4 |
| 1931 | 5.064 | 44,265 | 6.2 | 5 |
| 1930 | 3.694 | 35,374 | 5.3 | 5 |
| 1929 | 3.798 | 37,892 | 5.5 | 54 |
| 1928 | 3.912 | 37,885 | 5.357 | 51 |
| 1927 | 4.269 | 41,243 | 5.0 | 48 |
| 1926 | 3.553 | 32,345 | 5.0 | 45 |
| 1925 | 3.597 | 33,957 | 5.3 | 50 |

17a (4b)

TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
NIOBRARA COUNTY

| ENERAL COUNTY: LEVY | | GEN. SCHOOL LEVY | | CO. BOND INT. & REDEMPTION | | POOR, PAUPER OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount | Mills | Amount |
| .0 | $28,214 | 3.0 | $16,929 | .912 | $5146 | 1.0 | $5642 | .2 | $1129 | 12.112 | $68,346 | 7.912 | $44650 | 20.02 | $112,996 |
| .45 | 22,081 | 3.0 | 14.886 | 1.079 | 5355 | 1.0 | 4962 | .323 | 1600 | 11.852 | 58,808 | 8.793 | 43,633 | 20.65 | 102,441 |
| .2 | 35,016 | 3.0 | 16,943 | .986 | 5569 | .75 | 4236 | .265 | 1496 | 15.333 | 86,597 | 10.90 | 61,569 | 26.23 | 148,166 |
| .2 | 36,386 | 3.0 | 17,606 | .985 | 5783 | .926 | 5434 | .298 | 1749 | 15.653 | 91,861 | 10.54 | 61,844 | 26.19 | 153,705 |
| .2 | 43,571 | 3.0 | 21,083 | .86 | 6044 | .7 | 4920 | .25 | 1757 | 15.558 | 109,339 | 10.90 | 76,618 | 26.46 | 185,957 |
| .2 | 54,197 | 3.0 | 26,224 | .71 | 6207 | 1.0 | 8741 | .2 | 1748 | 16.174 | 141,382 | 9.879 | 86,362 | 26.05 | 227,744 |
| .3 | 50,756 | 3.0 | 28,730 | .66 | 6320 | .5 | 4788 | .38 | 3639 | 13.534 | 129,607 | 8.393 | 80,377 | 21.93 | 209,984 |
| .5 | 54,869 | 3.0 | 29,928 | .66 | 6584 | .5 | 4988 | .33 | 3292 | 13.788 | 137,553 | 8.516 | 84,958 | 22.30 | 222,511 |
| .357 | 51,869 | 3.0 | 29,050 | 1.0 | 9684 | -- | -- | .31 | 3002 | 13.579 | 131,490 | 7.442 | 72,065 | 21.02 | 203,555 |
| .0 | 48,304 | 3.0 | 28,983 | 1.0 | 9660 | -- | -- | .31 | 2995 | 13.579 | 131,185 | 5.745 | 55,503 | 19.32 | 186,688 |
| .0 | 45,516 | 3.0 | 27,309 | -- | -- | -- | -- | .31 | 2821 | 11.863 | 107,991 | 5.473 | 49,828 | 17.34 | 157,819 |
| .3 | 50,035 | 3.0 | 28,321 | .5 | 4720 | -- | -- | .3 | 2832 | 12.697 | 119,865 | 4.616 | 43,575 | 17.31 | 163,440 |

Source: Reports of State Board of Equalization.

| | STATE TAX LEVY | |
|---|---|---|
| Year | Mills | Amt. (000) |
| 1936 | 2.0 | $617 |
| 1935 | 2.0 | 600 |
| 1934 | 4.132 | 1269 |
| 1933 | 4.243 | 1363 |
| 1932 | 4.548 | 1612 |
| 1931 | 5.064 | 2120 |
| 1930 | 3.694 | 1614 |
| 1929 | 3.798 | 1701 |
| 1928 | 3.912 | 1729 |
| 1927 | 4.269 | 1971 |
| 1926 | 3.553 | 1626 |
| 1925 | 3.597 | 1656 |

Sou

17a (4c)

TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
STATE OF WYOMING

| GENERAL CO. LEVY | | GEN. SCHOOL LEVY | | CO. BOND INT. & REDEMPTION | | POOR, PAUPER OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) |
| 4.431 | $1367 | 2.622 | $809 | .403 | $125 | .979 | $302 | .763 | $236 | 11.198 | $3455 | 9.199 | $2838 | 20.397 | $6293 |
| 4.429 | 1329 | 2.635 | 791 | .407 | 123 | .932 | 279 | .713 | 214 | 11.117 | 3335 | 9.231 | 2769 | 20.348 | 6105 |
| 4.611 | 1416 | 2.622 | 805 | .416 | 128 | .778 | 239 | .805 | 248 | 13.362 | 4104 | 9.169 | 2816 | 22.531 | 6921 |
| 4.544 | 1460 | 2.6 | 835 | .386 | 124 | .739 | 237 | .776 | 249 | 13.288 | 4269 | 8.867 | 2849 | 22.155 | 7118 |
| 4.515 | 1601 | 2.503 | 887 | .335 | 119 | .705 | 250 | .675 | 239 | 13.282 | 4709 | 9.37 | 3322 | 22.652 | 8031 |
| 4.665 | 1953 | 2.327 | 974 | .302 | 127 | .717 | 300 | .674 | 282 | 13.771 | 5766 | 9.03 | 3781 | 22.78 | 9537 |
| 4.713 | 2059 | 2.07 | 904 | .335 | 146 | .367 | 161 | .738 | 323 | 11.918 | 5206 | 8.878 | 3878 | 20.796 | 9085 |
| 4.774 | 2138 | 2.159 | 967 | .346 | 155 | .368 | 165 | .684 | 306 | 12.13 | 5433 | 8.928 | 3999 | 21.058 | 9432 |
| 4.830 | 2134 | 2.182 | 964 | .505 | 223 | .319 | 141 | .528 | 234 | 12.275 | 5424 | 7.802 | 3447 | 20.077 | 8871 |
| 4.557 | 2104 | 2.056 | 949 | .346 | 160 | .326 | 150 | .605 | 279 | 12.159 | 5614 | 6.771 | 3126 | 18.931 | 8740 |
| 4.542 | 2079 | 2.012 | 921 | .315 | 144 | .208 | 95 | .544 | 249 | 11.17 | 5115 | 6.077 | 2782 | 17.25 | 7897 |
| 4.520 | 2082 | 1.955 | 900 | .189 | 87 | .249 | 115 | .716 | 330 | 11.22 | 5169 | 5.977 | 2753 | 17.20 | 7922 |

rce: Reports of State Board of Equalization.

17a (4c)

TAXES LEVIED AND PURPOSES FOR WHICH LEVIED
STATE OF WYOMING

| GENERAL CO. LEVY | | GEN. SCHOOL LEVY | | CO. HOME INT. & REDEMPTION | | POOR, PAUPER OLD AGE PENS. | | OTHER LEVIES | | TOTAL OF LEVIES | | SCHOOL DIST. TAX | | TOTAL TAXES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) | Mills | Amt. (000) |
| 4.431 | $1267 | 2.822 | $809 | .402 | $125 | .979 | $302 | .765 | $256 | 11.198 | $3445 | 9.199 | $2852 | 20.397 | $6298 |
| 4.429 | 1329 | 2.855 | 791 | .407 | 123 | .952 | 279 | .713 | 2335 | 11.117 | 3355 | 9.251 | 2769 | 20.368 | 6105 |
| 4.611 | 1416 | 2.822 | 805 | .416 | 120 | .778 | 289 | .805 | 248 | 12.352 | 4104 | 9.160 | 2816 | 22.351 | 6921 |
| 4.344 | 1460 | 2.6 | 835 | .386 | 134 | .739 | 257 | .776 | 223 | 12.088 | 4289 | 8.867 | 2845 | 22.155 | 7118 |
| 4.315 | 1601 | 2.303 | 887 | .355 | 119 | .705 | 250 | .675 | 229 | 12.282 | 4709 | 9.37 | 3322 | 22.652 | 8031 |
| 4.665 | 1953 | 2.327 | 974 | .302 | 127 | .717 | 300 | .674 | 282 | 12.771 | 5766 | 9.05 | 3721 | 22.76 | 9327 |
| 4.715 | 2059 | 2.07 | 904 | .355 | 146 | .867 | 161 | .738 | 325 | 11.018 | 5206 | 8.878 | 3872 | 20.796 | 9088 |
| 4.774 | 2158 | 2.159 | 967 | .346 | 155 | .869 | 165 | .684 | 306 | 12.13 | 5425 | 8.928 | 3999 | 21.058 | 9425 |
| 4.830 | 2134 | 2.182 | 964 | .305 | 223 | .319 | 141 | .328 | 234 | 12.275 | 5424 | 7.802 | 3447 | 20.077 | 8871 |
| 4.557 | 2104 | 2.055 | 949 | .346 | 160 | .326 | 150 | .605 | 279 | 12.159 | 5614 | 6.771 | 3126 | 18.931 | 8740 |
| 4.645 | 2079 | 2.012 | 921 | .312 | 144 | .208 | 95 | .544 | 249 | 11.17 | 5116 | 6.077 | 2782 | 17.25 | 7897 |
| 4.380 | 2082 | 1.955 | 900 | .189 | 87 | .249 | 115 | .716 | 330 | 11.22 | 5169 | 6.277 | 2750 | 17.50 | 7922 |

Source: Reports of State Board of Equalization.

17a(5) EXPENDITURES FOR OPERATING SCHOOLS[2/]

| School Dist. No. | 1929 - 30 Net Cost Per Pupil | Schools: One Tch'r | Schools: 2 & 3 Tch'r | Enrollment Per School | No. Pupils Per Tch'r | Days School is in Session | 1934 - 35 Net Cost Per Pupil | Schools: One Tch'r | Schools: 2 & 3 Tch'r | Enrollment Per School | No. Pupils Per Tch'r | Days School is in Session |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | $211 | 7 | 1 | 453 1/<br>12 | 32<br>11 | 170 | $ 90 | 9 | 1 | 406 1/<br>10 | 29<br>10 | 160 |
| 2 | 135 | 1 | | 112 1/<br>3 | 16<br>3 | 156 | 72 | | 1 | 142 1/<br>-- | 24<br>-- | 173 |
| 3 | 172 | 1 | | 31 | 15 | 176 | 105 | | 1 | 43 | 21 | 174 |
| 4 | 166 | 5 | | 10 | 9 | 175 | 117 | 5 | | 8 | 10 | 166½ |
| 5 | 205 | | 1 | 42 | 21 | 165 | 95 | | 1 | 42 | 14 | 177 |
| 6 | 191 | 2 | 1 | 13 | 10 | 176 | 66 | 2 | 1 | 27 | 20 | 176 |
| 7 | 139 | 3 | | 8 | 8 | 175 | 96 | 2 | | 8 | 8 | 162½ |
| 8 | 119 | 1 | 1 | 15 | 10 | 176 | 75 | 3 | | 14 | 14 | 155 |
| 9 | 201 | 7 | | 5 | 5 | 159 | 83 | 6 | | 5 | 5 | 156½ |
| 10 | 141 | 6 | 1 | 12 | 10 | 165 | 107 | 5 | 1 | 12 | 12 | 160 |
| 11 | 213 | 3 | | 5 | 5 | 174 | 107 | 3 | | 7 | 7 | 155 |
| 12 | 140 | 2 | 1 | 26 | 19 | 172 | 78 | 1 | 1 | 31 | 21 | 174 |
| 13 | 194 | 9 | | 9 | 8 | 163 | 99 | 10 | 1 | 8 | 8 | 157 |

1/ Includes city high schools.
2/ Data taken from County Superintendent's reports filed in the office of the State Superintendent of Schools, Cheyenne, Wyoming.

Section 17a (4) shows an increase in levies of almost 60 percent between 1925 and 1934. In 1935 a decrease of 20 percent over 1934 occurred. A large portion of this was due to the retail sales tax. Because of this tax the State levy was reduced to 2 mills. This tax stood at 5.064 mills in 1931 compared to the State as a whole, the increase was greater in Niobrara County and the change being from 17.2 mills in 1925 to 22.531 in 1934. In 1936 the total mill levy in Niobrara County was approximately comparable to the average of all counties in the state.

Information in connection with the operation of schools is shown in section 17a (5). The net cost per pupil in 1934-35 was approximately half of what it was in 1929-30. A significant portion of this reduction was the result of a cut in salaries. The number of schools, the number of pupils, and number of days the school was in session has not changed appreciably during the period.

17a(6)

TAX DELINQUENCY
NIOBRARA COUNTY

| Years | Acres Delinquent | Valuation | Amount of Taxes | Delinquent Amount of Former Years |
|---|---|---|---|---|
| 1936 | 120,695 1/ | $ 218,458 7/ | $ 5,395 1/ | 8/ |
| 1935 | 173,596 4/ | 365,316 2/ | 7,542 5/ | 8/ |
| 1934 | 215,364 4/ | 534,927 2/ | 14,033 5/ | 8/ |
| 1933 | 215,526 4/ | 550,569 2/ | 14,420 5/ | 54,200 3/ |
| 1932 | 400,381 3/ | 952,291 6/ | 27,354 3/ | 37,563 3/ |
| 1931 | 431,472 3/ | 1,367,766 6/ | 33,874 3/ | 19,802 3/ |
| 1930 | 270,624 3/ | 949,890 6/ | 20,021 3/ | 12,132 3/ |
| 1929 | 171,445 3/ | 605,201 6/ | 13,186 3/ | 4,788 3/ |
| 1928 | 200,918 3/ | 703,213 6/ | 13,421 3/ | 8/ |

1/ Published report, 1937. (Official advertised list)
2/ Reports of State Board of Equalization.
3/ C.W.A. Tax Survey of 1933.
4/ Computed by dividing land valuation by average assessed value.
5/ Computed by multiplying valuation by total levies assessed.
6/ Computed by multiplying acres by average assessed value of lands.
7/ Computed by multiplying acreage delinquent by average assessed value of lands.
8/ Not available.

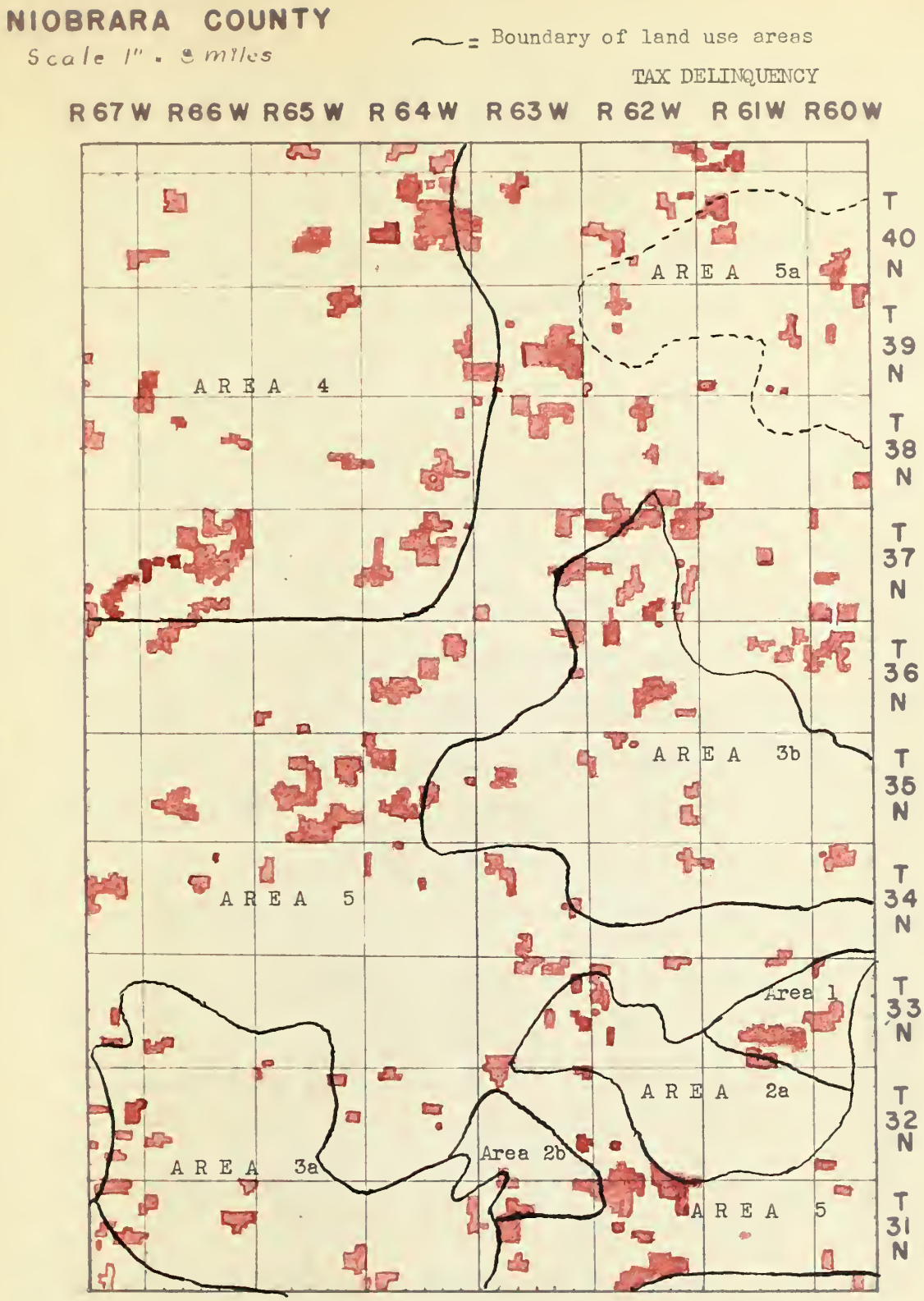



Figure 8.

Source of data: 1937 published report of tax delinquency.

17b 1-2 Tax Collection Procedure

The County form of local government prevails in this State. The Board of County Commissioners are empowered to act for the County. They are specifically responsible for the administration of the rural county roads, the levying of general property taxes and the equalization assessments made locally. The chief source of revenue for the county is from the general property tax although substantial aids are received from the State treasury and the Federal government. Property valuations are, according to Statute, to be assessed at the actual cash market value. Equalization between counties and the valuation of railroads and private utilities are assessed by the State Board of Equalization. The values are apportioned upon trackage, lines, etc. by the County Assessor to the school district. Rates of taxation are determined by budgetary needs within certain statuatory limitations. Except for debt service and support of institutions, the State levy is limited to four mills. The County tax is, exclusive of debt service, limited to 12 mills. Within this 12 mill limit further limitations exist. That is, the general school taxes are not to exceed 3 mills or $300 for each teacher and driver of school busses, the County library tax is limited to one-half mill, current expenses are not to exceed 7 mills. These limits are lowered as valuation increases. Of the current expenses, not more than 2 mills or 1/5 of the total can be used for poor, insane, etc. and not more than 3 mills or 1/2 of total can be expended for highway purposes. City and town levies are not to exceed 8 mills. School district levies are limited to 3½ mills except that by special rate an additional 5 mills may be levied.

All tax levies, both State and local, must be certified to by

the County Commissioners. Assessment for tax purposes is made in February. Levies are made by the County Commissioners the first Monday in August. Taxes are due and payable March 1 and Sept. 1 in two installments and are delinquent May 10 and November 10, except that no penalty is added if the entire amount is paid by December 31.

The delinquent tax list is made up immediately after the 10th of May. Delinquent property is usually advertised for sale before Sept. 10. Private purchasers may bid in the property by payment of the taxes and penalties and receive a certificate of purchase. Such assignments may be made at any time at the option of the County Commissioners. Tax title to real estate not sold to private purchasers is bid in and held by the County. The original owner has four years from date of purchase in which the property may be redeemed. If redeemed from the County, the redemption price is similar to the above but with an additional 3 percent interest payable the private purchaser. At the expiration of four years, the County Treasurer will, after having satisfied himself that the requirements of the law have been met, execute and deliver a tax deed to the private purchaser or to the County if the County holds the certificate of purchase.

During the 1937 session of the State Legislature, a statuatory measure was approved which permitted the redemption of real estate sold for delinquent taxes where the County held the certificate of purchase for the amount of accrued taxes exclusive of interest, penalties and costs. The measure was applicable also to real estate that had become the property of the County in the manner provided by law. The provisions of the Act had the limitations that it applied to tax sales made prior to January 1, 1937 and it terminated January 1, 1938.

Up to the present time this is the only official moratoria that has been provided for relief in taxation. However, during the 1935 session of the State Legislature, an Act providing for a 2 percent sales tax was approved. After certain limitations, a portion of these funds were transferred to the general fund of the State Treasury which has permitted a reduction to 2 mills in the State tax levy which in the past averaged about 4 mills.

Data secured in a tax delinquency survey made by the C.W.A. in 1933, indicate that the 200,918 acres or 17.6 percent of the total land area in the county was delinquent in 1928. The data show further that the acreage had increased to over 431,000 acres by 1931. Since this time, however, the area delinquent had gradually decreased and in 1936 the figure stood at 120,695 acres or about 10 percent of the land area assessed. It is interesting to note in connection with these delinquencies that there has been an almost constant annual reduction in assessed valuations of land in this County since 1920. During this period tax levies have been increased but not as rapidly as the land values have been decreased. Thus it would seem that while the burden of property taxation has been consistently lessened, the delinquencies were, at least until the present time, a conspicuous item. The reduction in the delinquency of taxes that has occurred since 1933 has no doubt been very closly associated with the various subsidy and rehabilitation programs. These data suggest that if the land and the natural resources are to be used so that they will permit the maintenance of a respectable level of living, with sufficient surplus to pay a proportionate cost of reasonably good public service, a thorough readjustment will have to be effected.

# NIOBRARA COUNTY

SCALE: 1"= 8 MILES ----- SCHOOL DISTRICT BOUNDARY

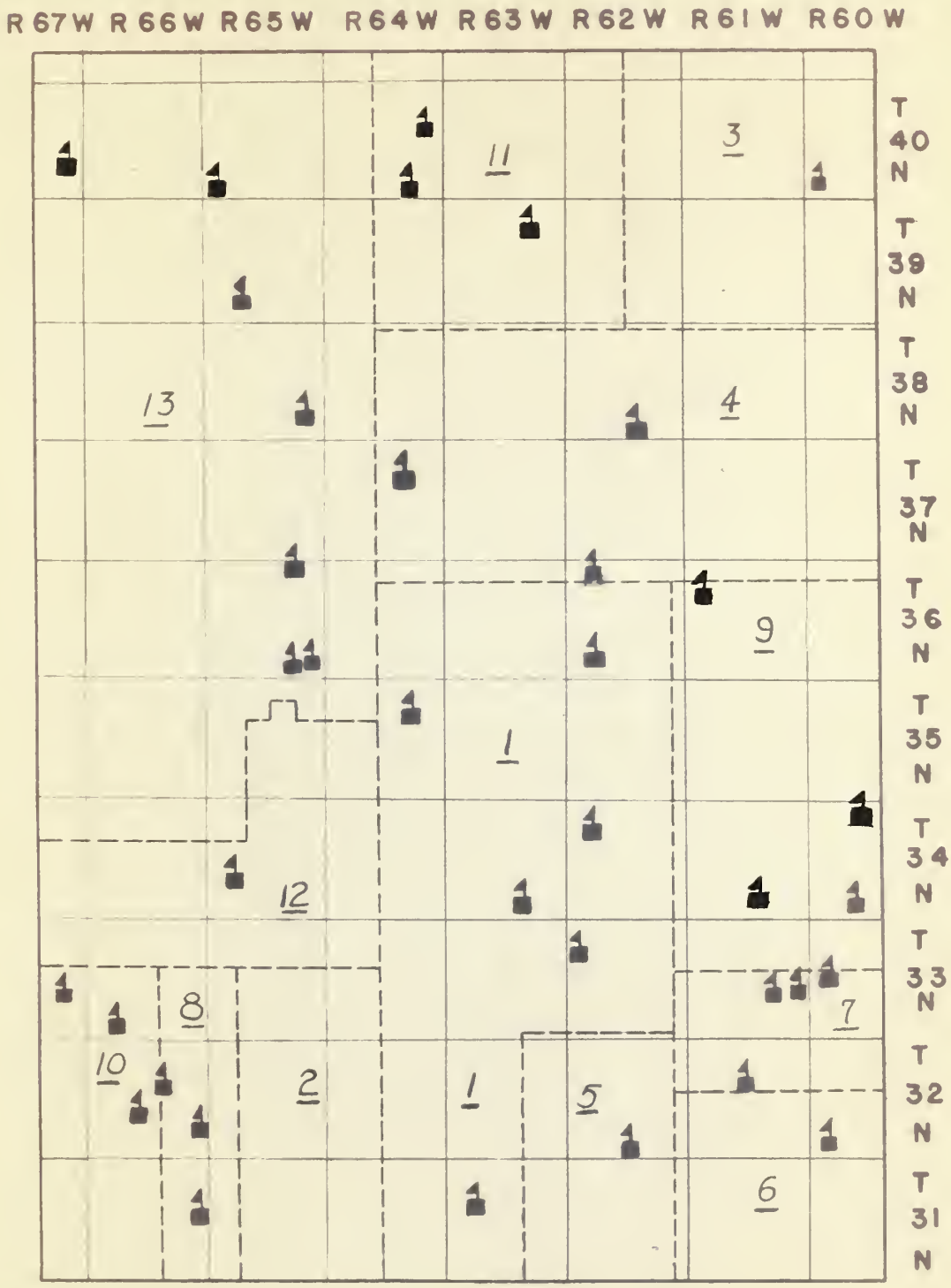



Figure 9.

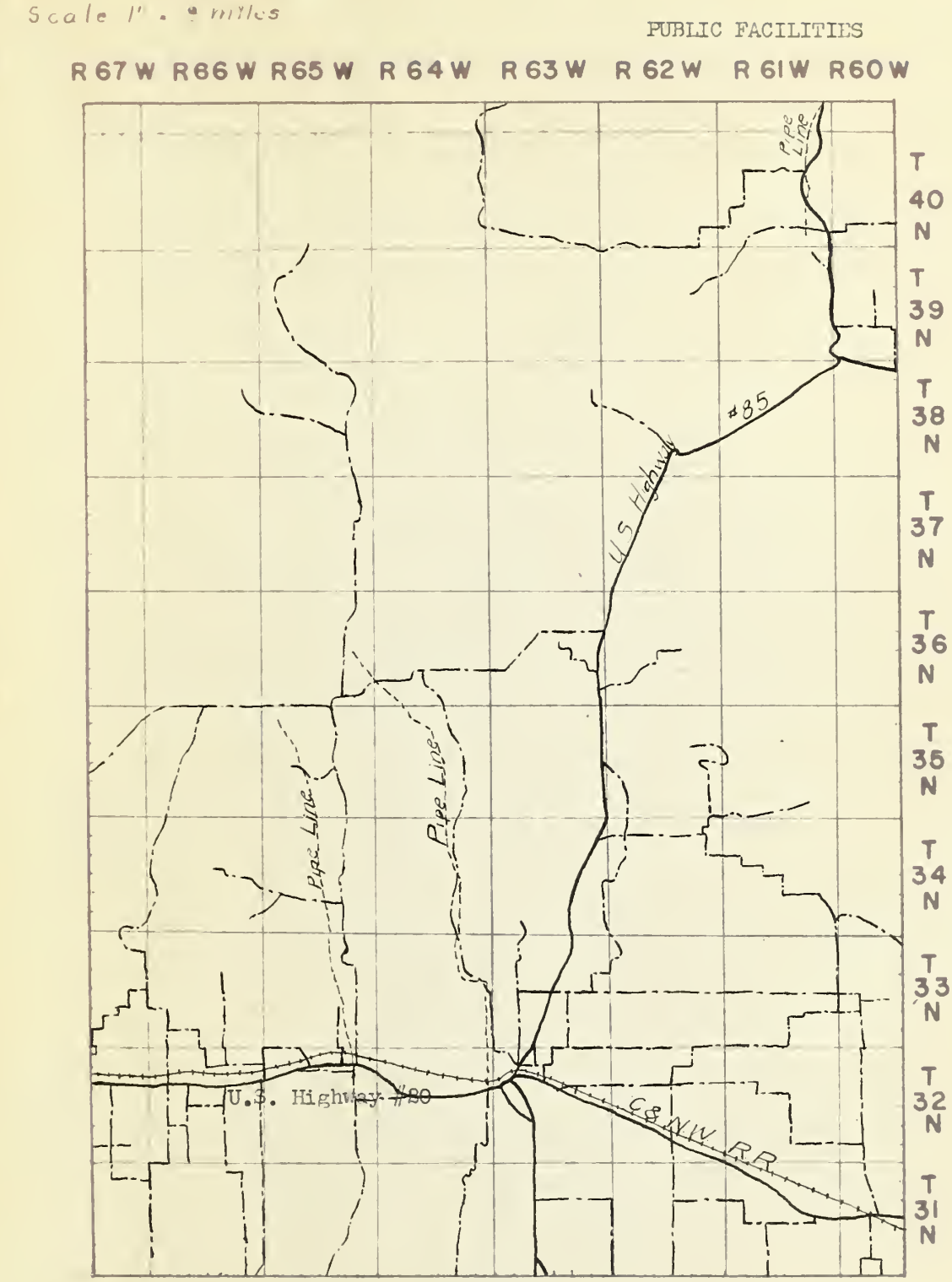



Figure 10.

Source of data: State Highway Department.

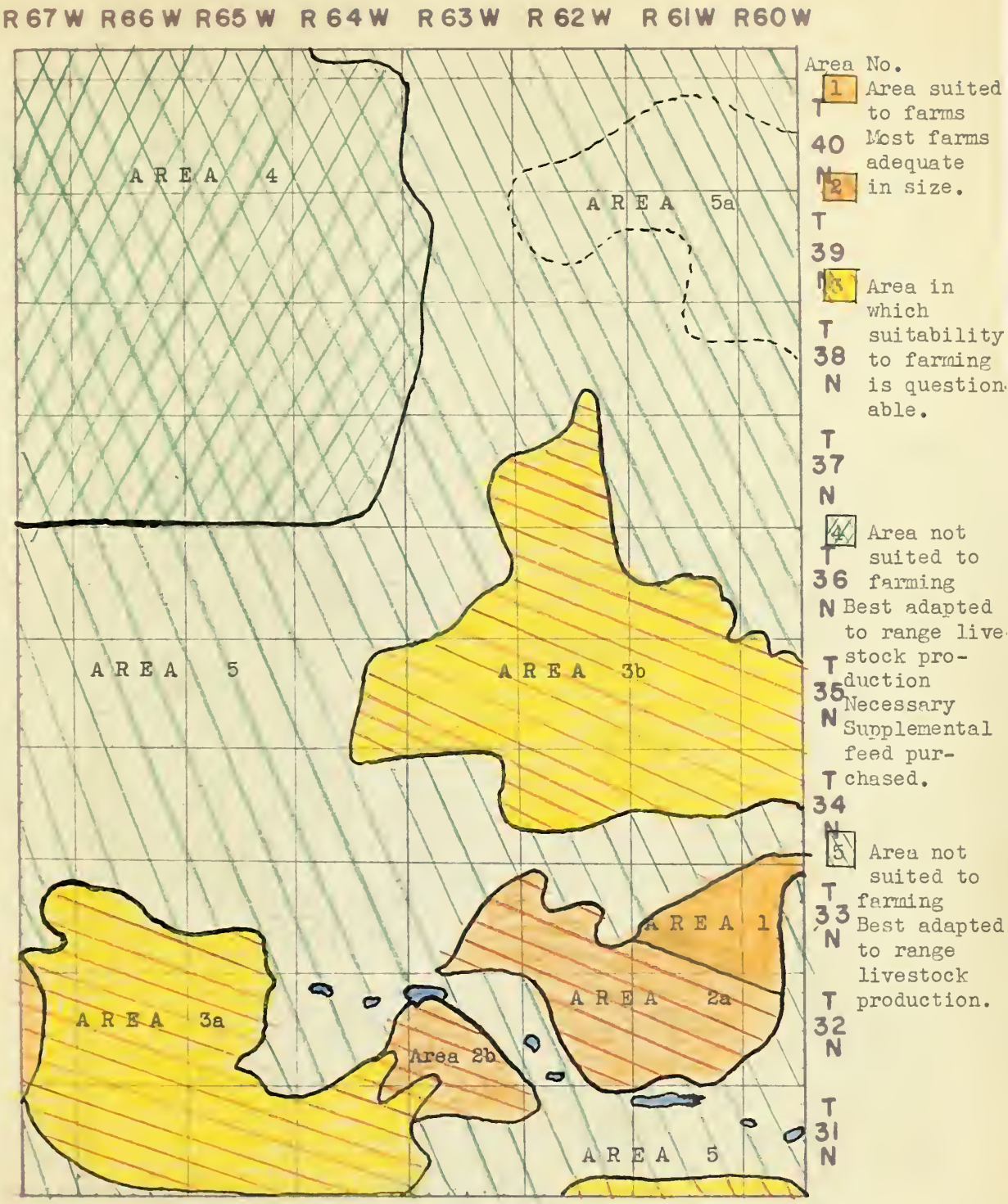
Figure 11 shows the classification of "land use areas" as they have been determined by available data and checked by presentation to the Niobrara County Agricultural Planning Committee. The classification attempts to indicate the most suitable type-of-farming as well as information associated with the various land use problems. A large part of the area is best adapted to the production of livestock. As indicated in a former part of this report, this is largely the result of soil and climatic conditions.

According to this land use classification, there are approximately 26,900 acres suitable for farms organized around the production of commercial wheat -- referred to as Area 1. Approximately 94,600 acres is in an area within which a certain amount of commercial wheat production is feasible but farm organization must also contain a substantial livestock enterprise -- referred to as Area 2. Approximately 353,000 acres is in an area within which the farm should be limited to the production of supplementary forage for livestock -- referred to as Area 3. Land use in the balance of the county is essentially limited to the grazing of range livestock. The northeastern corner of the county has been designated 5a. This embraces about 91,000 acres and is best adapted to livestock production but in the past has been subjected to a considerable amount of cash crop farming. The northwestern portion of this area has been set apart as a region within which the necessary supplementary feed is purchased, there being little opportunity locally for crop production -- referred to as Area 4 and embraces approximately 344,600 acres. Area 5 is essentially limited to the production of range livestock. It embraces about 756,000 acres and is the largest area having similar land use possibilities.

# NIOBRARA COUNTY

Scale 1" = 8 miles

LAND USE AREAS




Source: State Land Planning Specialist.

Figure 11

It should be understood that the above classification is very general and that there is no sharply defined line of demarcation between the areas. It should also not be inferred that all the land within the various regions is suitable for the specific purpose designated. In the cash grain areas there is land not suitable for this crop. Obviously all the land in Area 3, for example, cannot be used for the production of forage crops. However, when consideration is given to the social and economic factors as well as the physical limitations, these land use areas indicate the type-of-farming which will maintain the largest number of people and yet provide the requirements of a stable and self-sustaining agriculture.

The following discussion distinguishes between farming and ranching. The farms being considered to be concerned with tilling the soil and the latter with the grazing of livestock. With this distinction in mind, Area 1 and Areas 2a and 2b are suited to farms. Most of the units in these areas are adequate in size but there is relatively little opportunity for the establishment of new or a larger number of farms. Areas 1 and 2 are located on the best soil and precipitation is generally greater than in other parts of the county. The development of farm organizations in which cash crops are depended upon as the important source of income is "questionable" in Areas 3a and 3b. Soil conditions are generally not suitable being either very sandy or very heavy clay. These areas have not, in general, produced satisfactory crops since about 1931. Reference to Figure 8 shows that tax delinquency has been relatively heavy. Rehabilitation committments and work relief has been large. In Area 3a erosion is becoming significant. Areas 4 and 5 are not suited to farms. Topography, soils and climate limit land use largely to the grazing of livestock. Areas 3a and 5a are the most critical problem areas.

Satisfactory cash crop yields are difficult to obtain over a period of years and many of the operating units are too small to permit the organization of an adequate livestock enterprise.

(1) Evidence indicative of Land Use Adjustment Problems

The Rural Road Inventory Survey shows the location of 531 houses in Niobrara County. This information is suggestive of the population pattern. The closest concentration of people is in the southeast corner of the county in Area 1, 2 and a portion of 5. This area is not the most critical problem area since soil and climatic factors are more favorable than in other parts of the county. The area of second highest concentration of population is in the southwest and northeast corner of the county in Areas 3a and 5a. These two regions locate the critical problem areas and a large part of the following discussion will refer to this portion of the county.

Data secured from the County Welfare office suggest that 195 families in the county have received some sort of "relief" in 1936. The essential reason for this condition is not a cessation of industrial activity but the inability to produce crops under dry-farm methods of operation and the impossibility to secure additional grazing land either because of a lack of credit or because no such land is available.

In Area 3a there are at present 24[1/] rehabilitation clients and in Area 5a there are 4[1/] such clients. This number represents 12 percent of the total number of farms in the area. Since 1935 rehabilitation grants have amounted to $5049.

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1/ This figure does not include Rehabilitation grants.

While no field survey has been undertaken in connection with the development of this study, general observation shows that many farm improvements have rapidly deteriorated during the last six or seven years. Farm abandonment, however, is relatively low. The Rural Road Inventory survey shows but 7 abandoned houses in Area 3a, and 8 in Area 5a. The difficulty of finding a suitable opportunity for relocation and the local opportunity to receive the benefit of the various relief, conservation and adjustment, and credit programs have an important bearing on the situation. Without the benefit of these subsidy programs a large proportion of the present operators who are attempting to 'get by' on a basis of crop production would likely have had to make other arrangements.

There is practically no reliable information available in regard to the actual sale value of land, in fact very little land has been changing hands during the past few years. A scrutiny of data shown in section 17a (2) indicates that the assessed value of dry farm land in Niobrara County decreased from $8.05 per acre in 1925 to $3.68 per acre in 1935. Since a relatively high proportion of land in Areas 3a and 5a is assessed as dry farm land, it is reasonable to assume that the sale value of land in these areas has also dropped materially and is probably valued at the present time at much less than half of what it was 10 years ago.

Reference to Figure 8 shows that tax delinquency is little different in Areas 3a and 5a than in other parts of the county. Financial assistance from outside sources has enabled taxes to be paid. Without this assistance the picture would be much changed since farm operations during the past few years which has been concerned with the production of crops has returned, as a rule, an extremely small income.

Since no field surveys were carried on there is little information available which indicates the range of family income. The following data taken from the AAA files show results of participation in the range program in 1937 and is indicative of the general situation for the operators that make livestock represent an important agricultural enterprise.

| Size of unit | No. operators | Acres Range Land | No. livestock units grazed 1/ | Grazing capacity 2/ | Gross income 3/ |
|---|---|---|---|---|---|
| 0 - 640 acres | 17 | 529 | 25 | 15 | $ 500 |
| 641 - 1280 " | 26 | 939 | 44 | 27 | 880 |
| 1281 - 1920 " | 27 | 1,487 | 49 | 45 | 980 |
| 1921 - 2560 " | 23 | 2,083 | 76 | 59 | 1520 |
| 2561 - 5120 " | 33 | 3,543 | 150 | 101 | 3000 |
| 5121 -10240 " | 27 | 6,152 | 240 | 168 | 4800 |
| 10241 or more " | 21 | 16,703 | 753 | 466 | 15060 |
| Ave. or total | 174 | 4,341 | 179 | 122 | 3820 |

These data show that 54 percent of the operators participating in this program had but 4 sections or less in the operating unit and averaged only 1306 acres. They had an average of 51 animal units which returned an income of approximately $1000. None of the operators in these groups were providing an adequate income for their families. The balance of the operating units were sufficiently large so as to provide an adequate income. A stable ranch organization that will embrace the possibilities of providing a sufficient income for living expenses as well as a surplus that will permit the payment of a proportionate share of necessary public service, requires sufficient land to graze and produce necessary supplemental feed for approximately 125 head of animal units. This question is subjected to further discussion in a later portion of this report.

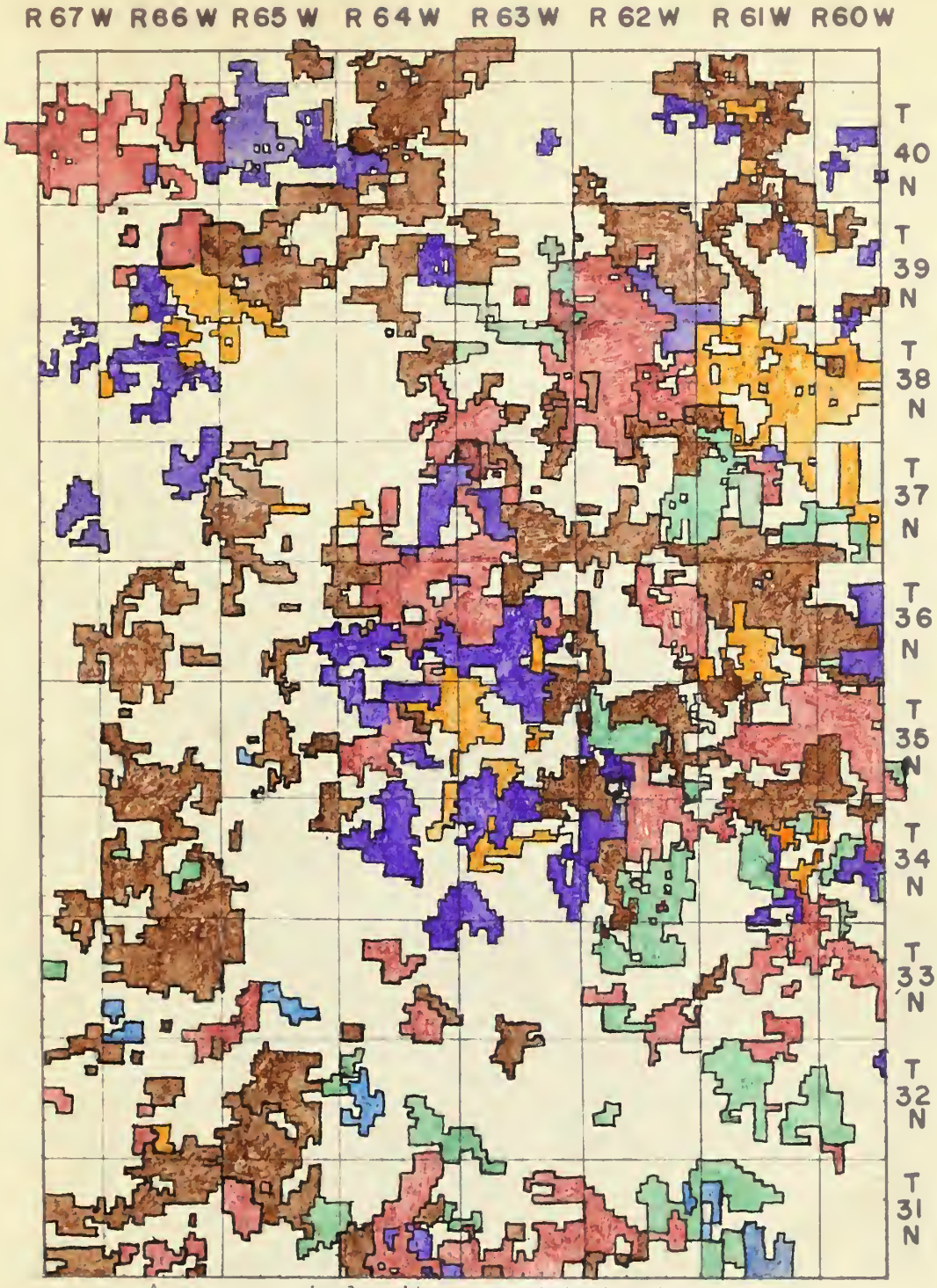
Since the operating units are much smaller on the average than

1/ Cattle, horses, sheep -- 5 sheep equal 1 animal unit.
2/ As determined by A.A.A. range investigation.
3/ Computed on an allowance of $20 per unit grazed.

# NIOBRARA COUNTY

Scale 1" = 8 miles

RANGE LAND CARRYING CAPACITY




| Acres per animal unit | Animal units per section. |
|---|---|
| 22.5 | 29 |
| 27.5 | 23 |
| 32.5 | 20 |
| 37.5 | 17 |
| 42.5 | 15 |
| 47.5 | 13.5 |

Source:
Agricultural Adjustment Administration.

Figure 12.

is indicated by the foregoing data, and since the number of livestock per farm are smaller, the farms located in Area 3a and 5a very likely had much smaller incomes than shown by the above data.

Figure 13 shows the erosion condition as determined by the reconnaissance erosion survey of the Soil Conservation Service. The most serious erosion in the county, as indicated by these data, embrace a large portion of Area 3a. This is largely due to the sandy character of the soil and in certain places to the rolling topography. On the whole, erosion is probably not an extremely serious problem. Control can be effected in a large measure by maintaining the vegetal cover in the grazing areas, restoring to grass low quality crop lands, and by strip cropping, listing or otherwise instituting such practices as well as alleviate the influence of wind in the area where crop farming should be maintained. Contour furrows in the range land areas where the topography is rolling is an economic means of maintaining on the land a larger portion of the annual precipitation. Retaining the moisture will increase the carrying capacity as well as accelerate plant growth which in turn retards the movement of the soil.

(2) Physical Characteristics likely to influence land use

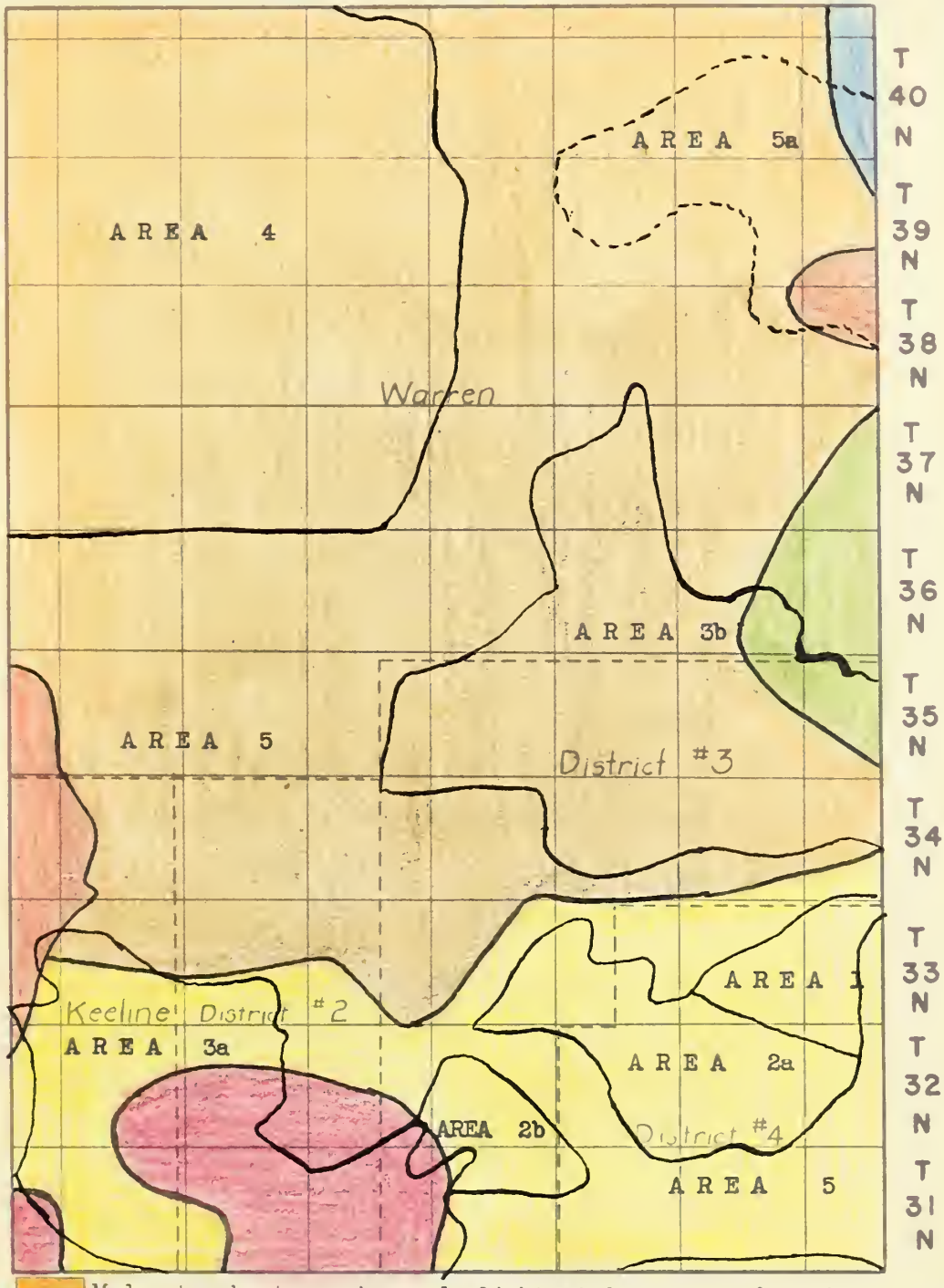
Topography

Except in the southeastern part, a fairly large portion of Area 3a is physically tillable. It is a gently rolling country and generally well suited to the establishment of an effective farm lay-out. In fact it was this characteristic that gave added emphasis to homestead settlement. A much smaller portion of Area 5a is physically tillable. This part of Niobrara County is rolling to rough. Frequent sandstone escarpments, hills, and gulches are in evidence. However, in the area as a whole sufficient farmable land was available to encourage

# NIOBRARA COUNTY

RECONNAISSANCE EROSION SURVEY
Soil Conservation Service

Scale 1" = 9 miles ------ Minor Civil Divisions
~~ = Boundary of land use areas.




Moderate sheet erosion and slight wind erosion Occasional gullies
Moderate sheet erosion and slight wind erosion
Moderate sheet and severe wind erosion Frequent gullies
Slight wind erosion Occasional gullies
Slight wind erosion
Slight sheet erosion Occasional gullies
Moderate sheet erosion Frequent gullies

Figure 13.

settlement with the production of crops constituting the important enterprise. Area 3b is fairly similar in physical characteristics to Area 5a but the soils are different, being sandier and lighter in quality. Area 5 is generally quite rough and rolling. Areas 1, 2a and 2b are level to gently undulating and from this standpoint are fairly well suited to the organization of farms.

Soils

Reference to Figure 5 showing land classification gives the best available picture of the soils in this county. This classification is admittedly very general. Except during years of very favorable precipitation, farming third-grade dry-farm land has been, as a rule, very discouraging. In fact the land classified as second-grade dry-farm land in the southwestern part of the county has also been and is, at present, very discouraging. The area classified in this latter category is on the whole fairly sandy with a certain deficiency in organic matter. The undesirable qualities of the soil in this grade tend to increase toward the west. In view of the present distress in this area that is the result of wrong use of the land, it is very probable that the production of commercial cash crops namely, wheat, should be limited to the better lands in Areas 1, 2a, and 2b. The production of farm crops in the balance of the county and this includes third-grade dry-farm land, should be limited to growing supplementary feeds for livestock. However, all possibilities to produce such feeds should be thoroughly considered.

Climate

A discussion of the influence of climate on land use has been presented in an earlier section of this report, refer to table 1 and figure 3. In general the southeastern corner of the county, including

Areas 1, 2a, 2b and a portion of Area 5, receive the greatest annual precipitation. In this area the average is about 16 inches. Under a normal distribution this amount will permit fairly satisfactory farm operations. The rainfall tends to decrease, however, as the western and northern boundaries of the county are approached. On the whole, summer precipitation is of smaller value than at other seasons of the year. Run-off is unusually heavy, evaporation high, and occasional showers are of sufficient magnitude as to cause floods. Approximately 62 percent of the annual precipitation occurs from September to June, and 38 percent during the summer. Approximately 75 percent is seasonal from May to September inclusive. These data are fairly representative of all type-of-farming areas in the county.

Land use and ownership

According to the 1935 Census data there were 738 farms in Niobrara County. The Rural Road Inventory survey shows the location of 531 farm and ranch houses, (Figure 6). Except in the southern quarter of the county, and in Area 5a, the farm headquarters are, as a general rule, widely scattered. However, approximately 78 percent of land in the county is in private ownership. Ten percent of the area is State land and 11 percent is Federal land. The Federal land or public domain includes the unperfected homesteads. Data taken from the Assessor's records in 1938 indicated 1795 different ownerships.

CLASS OF OWNERSHIP 1/

| Size of Ownership | Resident No. | Resident Acres | Non-Resident No. | Non-Resident Acres | Corporate No. | Corporate Acres |
|---|---|---|---|---|---|---|
| 0 - 80 Ac. | 46 | 2,470 | 68 | 4,303 | 7 | 335 |
| 81 - 160 " | 61 | 9,310 | 111 | 17,147 | 4 | 490 |
| 161-320 " | 174 | 52,850 | 307 | 93,040 | 12 | 3,450 |
| 321- 480 " | 84 | 36,698 | 62 | 26,200 | 1 | 440 |
| 481- 640 " | 251 | 157,427 | 223 | 140,040 | 7 | 4,240 |
| 641- 960 " | 102 | 82,675 | 37 | 29,740 | 1 | 895 |
| 961 & Above | 197 | 551,170 | 35 | 72,690 | 5 | 15,110 |
| Total | 915 | 892,600 | 843 | 384,160 | 37 | 24,960 |
| Percent of total | 51 | 68 | 47 | 30 | 2 | 2 |

Total Ownership 2/ 1795 parcels
Acreage private ownership 1,301,720 = 78.2% of county
" State land 170,480 = 10.2 " "
" Federal 3/ 190,400 = 11.4 " "

Of the total land in the county 78.2 percent is under private ownership, 10.2 percent State land and 11.4 percent Federal land. Of the privately owned lands, 68 percent of the total acreage is owned by residents, 30 percent by non-residents and 2 percent by Banks. Fifty-one percent of the various parcels of ownership is resident, 47 percent non-resident and 2 percent corporate. The data pertaining to the non-resident ownership has a significant bearing on the land use adjustment problems. Figure 14 gives a picture of the ownership pattern.

Due principally to the inability of the soil to produce, in most cases, adequate crop yields and to the speculative features that were often a part of the development of the western portion of the Great Plains, absentee ownership of land has frequently become exten-

1/ Resident -- living on or exercising control over the use of the land. Non-resident-- not living in county or exercising no control over use of the land. Coporate -- Land Banks, Private Banks, Insurance Co,etc.
2/ 1560 acres unaccounted for.
3/ Includes unperfected homesteads and other withdrawals.

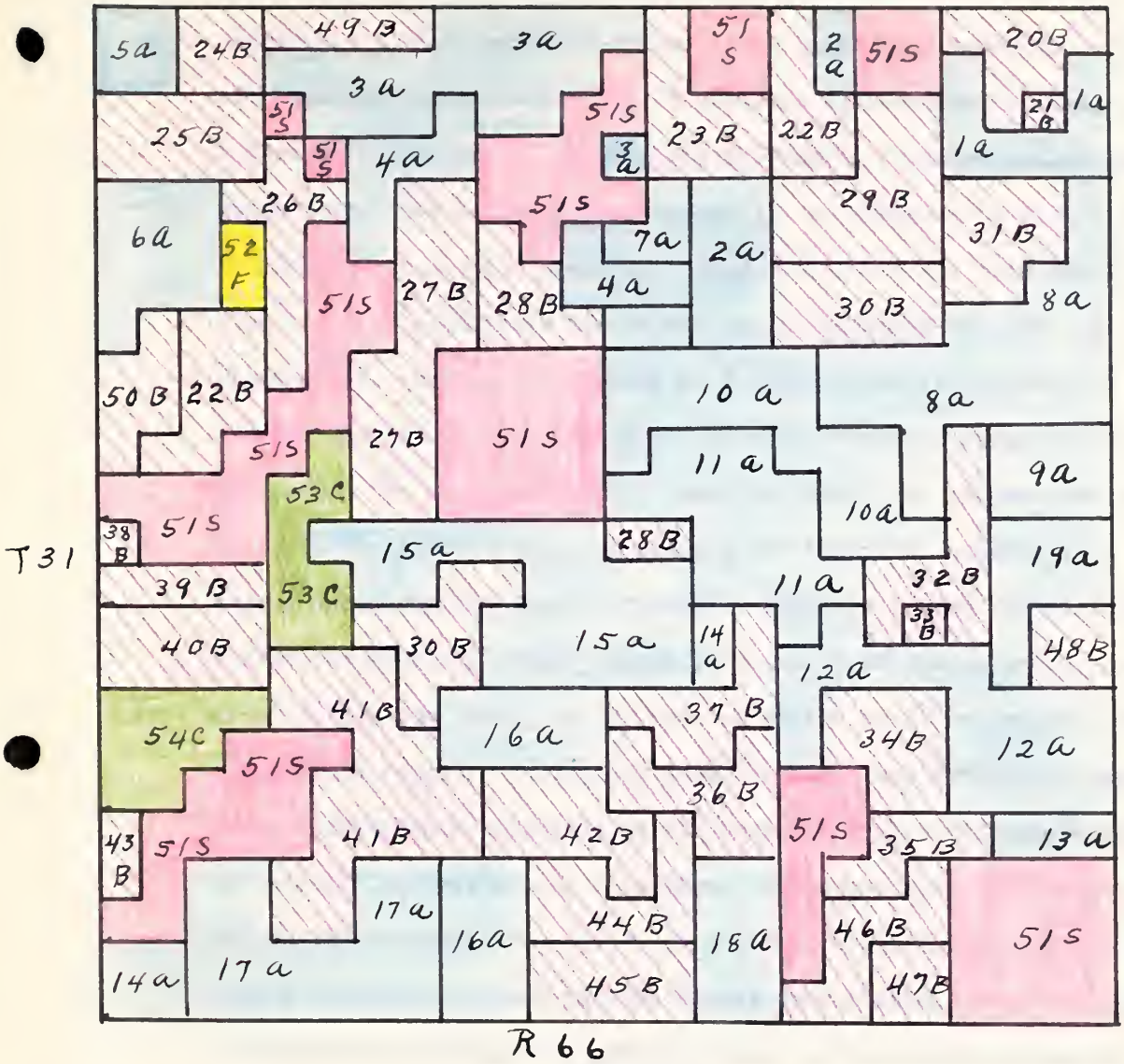
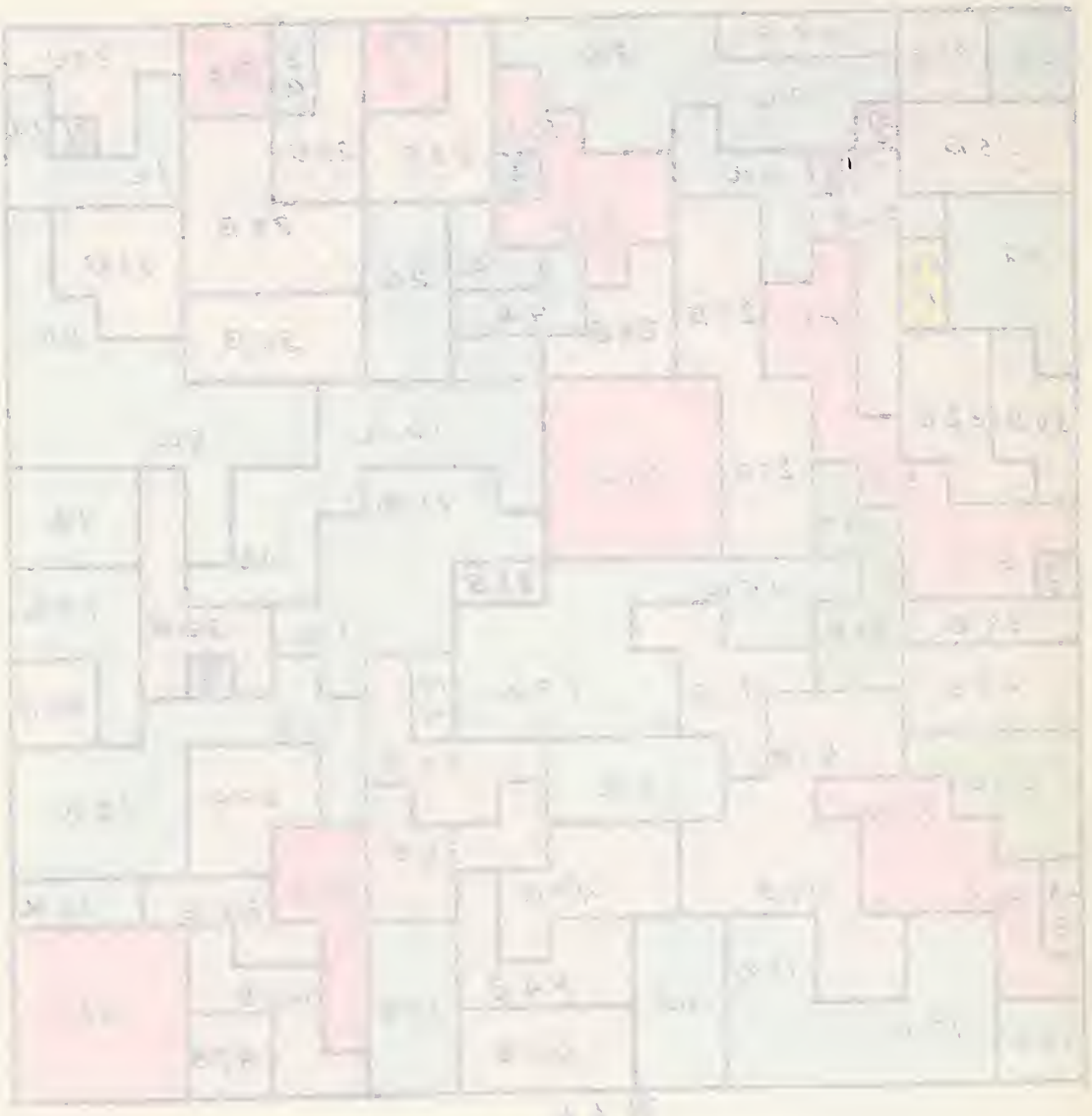



Figure 14.

Sample Ownership in Area 3a, Niobrara County

| | | |
|---|---|---|
| Resident | No. Residents -- 19 | Ave. Acreage--490 |
| Non-Resident | No. Non-residents--31<br>Ave. acreage -- 294 | |
| Corporate | No. Corporate--2<br>Ave. acreage--340 | |
| State | Total Acreage--3680 | |
| Federal | Total Acreage-- 80 | |



sive and has been a factor which makes for undesirable land use practice. A high degree of non-resident owned land tends to contribute toward the development of an unstable agricultural community. A farm or ranch, organized on a basis of using certain non-resident owned lands, may be materially up-set if the right to their use is transferred to another operator. Among other things, this situation also tends to contribute toward the exploitation of the soil and plant cover. Unless the rancher or farmer, as an individual, is assured the use of such land over a period of years, sensible use is frequently the exception rather than the rule. The general feeling being to the effect that, "if I don't get the grass someone else will," and consequently the land is ruinously grazed. If, on the other hand, one of the absentee owners cannot lease the land for an amount sufficient to pay the taxes, as has been often the case, delinquency of assessments result. Delinquent taxes may have and frequently have had a very undesirable influence on the County fiscal structure especially in school districts of low valuation. Delinquency in tax payment eventually increases the burden on resident operators as certain fixed County costs must be met and the levies or valuations must be increased to meet the situation. In general, also, it is almost axiomatic that an operator will take better care of land that he owns or lands over which he has effective control, if by such ownership or control he can produce efficiently and economically. In order to permit long time desirable use of land in areas of low production capacity and diversified ownership, it may be necessary to provide for the development of grazing districts. The advantages of and the ability to effect desirable land use practice in areas of low potential production capacity in a manner generally satisfactory to the individual and

to society as a whole, by the grazing district, has been demonstrated in other regions similar in many respects to Niobrara County. In connection with the winter grazing of livestock, it is often necessary to have relatively large areas of range land available, in order to provide insurance against the possibility of having no pasture usable due to heavy snows. Variation in topography, wind and climate usually permit the moving of livestock to the areas from which snow has been removed by wind or is otherwise open, if the grazing area is relatively large. In areas of diversified ownership, Grazing Associations permit a situation whereby the undesirable influence which the small unit has on management can be effectively reduced.

Absentee ownership also tends to stimulate an increase in cultivation during periods of favorable rainfall. There is, as a rule, less thought given to conserving soil fertility or effecting erosion control practices on leased or non-resident land than on land locally owned and used. An operator will frequently put to speculative or exploitive use, on much less provocation in the form of rain or favorable wheat prices, land which he leases, than the land which he owns, especially if the livestock enterprise is being expanded. For this reason, extensive non-resident ownership in general acts a potential threat to sound land use and adjustment which has been effected. A few successful wheat crops, on such land, can do much in a very short time to retard progressive tendencies toward a conservation of natural resources. In addition to these factors the presence of non-resident owned land permits thriftless families the possibility to move in where there are no schools, ask for a teacher, transportation or otherwise become a responsibility to the County. This situation not only tends to increase the financial burden of the school district but may become

sufficiently frequent as to have an undesirable influence on the general morale of the neighborhood.

Absentee owned land also permits a greater degree of tenancy than is perhaps compatible with best land use practices. Many of the questions raised in connection with the sound development of natural resources under diversified ownership are also a problem in connection with diversified tenure. Both factors may contribute to the instability of an agricultural community. A landlord is often more desirous of securing the largest immediate return from the use of the land than in establishing a well rounded out farm practice that will maintain fertility and control erosion. For this reason, wheat as a crop easily convertible into cash may be required in an acreage larger than is best suited to the soil conditions. Under a system of short term leases, the possibility of an adequate livestock enterprise is materially reduced. Such an enterprise on the small farm is especially important since it is about the only means of securing employment in the winter time. A respectable living can not be expected from a small operating unit even under the best of soil conditions unless there is opportunity for fairly substantial employment the year around. In this area this employment must be provided by the farm as there is at present a very limited opportunity to find work off the farm. Landlord-tenant relationships will never be wholly satisfactory until both parties and the communities recognize the undesirability of the frequent change caused by the short term lease and recognize the need to establish long time sound farm management practice that will maintain soil fertility, reduce and control erosion and otherwise conserve natural resources.

Since no field survey was carried on in connection with this study, and since no farm management studies have been made in this area, the only information available indicating variation in size of

farms is that shown on page 53, data taken from the AAA files, and that on page 59 showing the ownership pattern. Farms vary in size from less than one-half section to a few having very large acreages. As usual in the plains area of the State a relatively small proportion of the people control a relatively large proportion of the land. It is also fairly safe to assume that, by and large, the smaller operating units are located on the less productive soils.

In this county the farmers and ranchers own or lease a large portion of the land used. The ranch operators plan to graze their livestock for a period comparable to 9½ months of the year. Supplementary feed for a period of 2½ months is then necessary. This is not to imply that the feeding occurs during one consecutive period. In a strictly range livestock set-up, the cattle or sheep are grazed during the whole year except that during storms or heavy snows the grazing is supplemented with additional forage which is hand fed. This feeding period may last from 3 to 5 months during the winter and early spring.

The sale of feeder cattle or lambs provides by far the most important source of income for the ranch operators. The smaller general farms and especially those located in Areas 1, 2a, and 2b, secure an income from crops such as wheat, crested wheat grass seed, and potatoes. The better organized farms in these latter areas also have an important livestock enterprise which may consist of a small herd of beef cattle or a farm flock. Poultry and swine are also important on a few farms. In Areas 3a and 5a soil and climatic conditions practically eliminates farm organization on a cash grain basis but the number of operating units and the present ownership pattern materially influences the organization of adequate livestock

units. The difficulty in effecting adjustment becomes apparent since the best use of the land is associated with the production of livestock on a range management basis. An alternative use of the better land previously in cash crops is limited to the production of forage crops. The inavailability of grazing land either due to a lack of credit or to control by the larger operators also retards a change from crop farming to livestock production.

In the analysis of problems associated with land use adjustment, the question of the optimum size of operating unit and ways of achieving this optimum size continually arise. On a basis of straight livestock (cattle) production, it is fairly easy to determine the land requirements if a specific assumption as the necessary gross income and an estimate of the range carrying capacity are established. If the assumption is made, for example, that $2500 gross income is a minimum standard and it takes 30 acres of range land for year long grazing, the operating unit must be at least 6 sections since the average production of beef per animal unit at the average price along with miscellaneous items of income is approximately $20 per head. The average size of farm, as shown by the 1935 Census in Niobrara County, is approximately 3 sections, or less than half of the amount indicated above. The problem of adjustment, however, is greater than is indicated by these figures since a relatively small proportion of the operators control a relatively large proportion of the land within the county. Since these conditions obtain throughout the area, a realistic approach to an effective adjustment program must of necessity involve the larger operator if the question of the people as well as the conservation of the soil is to be given consideration in the adjustment activities.

Labor is perhaps the most important question involved in a land adjustment program if the resources within an area are to be so organized as to support the greatest number of people. Problem areas are the result of too much unemployment on farms. In the area under consideration, in fact in the whole of eastern Wyoming where dry farming was at one time an important enterprise, there are no industries that afford extensive part-time employment. Therefore, the land has to absorb the labor. The small farm organization that keeps the operator employed but half the time can be expected to provide but half of the necessary living expenses. In such a situation outside sources of funds are necessary and will continue to be necessary under a similar employment or land use status. The operator of the small farm attempts to overcome the difficulties of this situation by crop farming since this provides the greatest opportunity for employment. Under a combination of high rain and a relatively high virgin fertility, even though the soils are rather shallow, a very satisfactory living was provided by wheat production for a short while. Now, however, the story is different and when consideration in the adjustment program is given to type-of-farming, the question of size of the unit immediately comes forward.

Land use by livestock under various diversification possibilities is, in this area, essentially the only alternative. The question of labor, however, remains just as important.

Since the yield of the only cash crop, wheat, is frequently very low, effort must of necessity be used for the production of forage crops. This suggestion is in line with sound land use, if the land used for feed crop production is of a quality that, as the result of satisfactory cultivation, a return in the form of digestable nutrients is consistently greater than the amount available in the form of grass

which is possible on the better quality soils that are scattered through the area. For example the average carrying capacity of the range lands as shown by AAA range examinations (about 50% of the area) is 30 acres per animal. The average production of corn, when limited to the better land, should be at least 15 bushels of grain plus the stalk, which, on a basis of studies carried on by the Department of Agricultural Economics is about comparable to 800 T.D.N's per acre. Further studies show that the feed requirement of an animal unit is approximately comparable to 4100 T.D.N's which would indicate the production of about 136 T.D.N's per acre from the grass pasture. Thus the production of digestable food is about 6 times as great where corn is produced than is produced on similar areas in grass. The quality of the feed is also a matter for consideration in certain types of farming. The proportion of the whole area that is adapted to forage crop production on a desirable basis is, of course, relatively small but the area that is suitable for such use should be developed to a maximum and this fact should receive thorough consideration in the present land utilization program.

An example of the influence of forage crop production on the size of the operating unit may be shown by the following data. On a basis of an income of $20 per head it would require 125 head of cattle units to approach a subsistence livestock set-up. On a basis of straight grazing this many livestock would require about 6 sections of land or 3840 acres. However, this is a greater acreage than would be used under the average organization since the AAA data shows for example that supplemental feed for at least 2 months is necessary. This factor would reduce the acreage by about a sixth, and set the requirement for this type of an enterprise at about 5 sections. Now

if the assumption is made that it would be possible in a number of cases to grow 100 acres of feed crops, say corn, this would again reduce the necessary land area by about 500 acres, since as suggested, about 6 times more feed will be produced under favorable conditions on the cultivated land than would be produced with the same land in grass or native forage. Thus it can be seen that a program of land utilization should give thorough consideration to the production of supplemental forage crops in planning the use of the land within any particular area. The land requirement would thus be reduced to about 4 1/4 sections or 2700 acres.

These data emphasize the problem of adjustment that is involved if the greatest number of people are going to be able to organize a farm or ranch on a basis of best land use.

The question of whether or not the land can be used to the greatest social advantage when a large acreage is under the control of one operator is also one that should be scrutinized. It is obvious, of course, that an owner of a large acreage must hire help to operate the ranch. Frequently these men and their families have a higher standard of living than many operators of small farms. Whether or not this is also equivalent to a situation of small diversified ownership is an open question. When a map showing the location of the operating units is superimposed on a map showing soil types, it has been observed so far that a larger portion of the better soils tend to be located in the larger units. The ranches were organized at earlier dates than the farms and it is only natural that this would be the case since the better grass and forage would be found in the areas of better land. That this is the situation one is led to think that a greater number of families could be satisfactorily sustained under more diversified

ownership provided the better soils are used as a feed base.

It has already been pointed out that year around employment is more or less essential if a satisfactory solution to the problem area question is to be effected. In areas where it is generally undesirable to attempt cash crop production, a livestock enterprise becomes the only alternative. A livestock enterprise requires considerably more land than most of the farms that were originally organized around wheat production were interested in acquiring. Since the opportunity to secure the use of more land at the present time is becoming increasingly difficult, it is apparent that the development of a feed base to a desirable maximum is an essential feature of sound land use. It is because of this fact that the question of the social gains to be had from large ranches or small ranches should be studied. Where the lands which are suitable for the production of supplemental forage crops, including dry land as well as irrigated land, are operated in the best possible manner, there is perhaps little significant differences from a socially desirable standpoint in the size of the operating unit provided none are below the economic minimum. Where the feed base lands are not used in a manner that, over a period of years, will provide the greatest amount of supplemental forage, use, of course, being commensurate with conservation principles, a social disadvantage is likely to be in evidence.

Since the large ranches have control of the better lands, at least in areas where cash crop production is a questionable practice, an effective adjustment program should give consideration to the purchase of lands that are suitable for a feed base.